THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

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Agricultural Schools.

Report of Massachusetts Commissioners.

The Legislature of Massachusetts, at its session of 1850, appointed a Commission for the purpose of considering the expediency of establishing an Agricultural School or Schools, in that state. President HITCHCOCK, of Amherst College, was one of the members of this board; and he, being in Europe at the time of his appointment, was requested to visit the institutions devoted to agricultural instruction in that quarter of the globe. The principal portion of the Report of the Commissioners, consists of the account given by President H. of his examinations of the Agricultural Schools of England, Ireland, Scotland, Germany, Switzerland, and France, with remarks and deductions from the facts obtained in the investigation.

Prest. HITCHCOCK has embodied a greater amount of valuable information on the subject of Agricultural Schools, than we have ever before met with, and for the important service he has thus rendered his countrymen, is eminently entitled to their lasting gratitude. He has given a comprehensive view of the European schools, the most celebrated of which he visited personally,—has pointed out their effects upon the agriculture of the countries and districts in which they are located,—with a summary, comprising an analysis of the various plans, showing their respective merits and defects,—and concludes with arguments demonstrating the necessity of establishing institutions for the improvement of agriculture in America, furnishing several simple and excellent outlines of plans.

Had we space, we should be glad to copy a large portion of the remarks to which we allude. We are obliged, however, to restrict ourselves to a few extracts, but would earnestly recommend an attentive and careful examination of Prest. HITCHCOCK's whole report, to all who wish to obtain a clear, practical, and common-sense view of the subject of agricultural education.

From Prest. H.'s summary of conclusions, we take the following:

VI. European Agricultural Schools have taught us some important lessons.

1. That these schools usually fail, if they do not receive efficient aid from the government.

2. That agricultural societies are not sufficient. These exist in all the countries above enumerated, I believe, and have done great good. But the conviction is very general there, that schools should be added to the societies; especially in countries where cultivation is a good deal deficient.

3. That theory is to be tested by practice; and such theories as will not sustain this test are to be rejected.

4. That these schools are doing very much to promote the progress of agriculture. This was the general testimony.

5. That to teach agritulture in the primary schools and academies is not sufficient. This does some good, but does not accomplish all that is desirable.

6. That agricultural professorships, in colleges and universities, are not sufficient. 1. Because lectures of this sort attract but few of the students of the colleges, who are looking forward to professional life. Such is certainly the case everywhere in Europe. 2. Because the two classes of students who would thus be brought together, would have too little sympathy to act in concert, and as equals, in the same institution. 3. Because, without such concert and sympathy, one or other of the classes of students would feel no pride in the institution; and without such an *esprit du corps* it could not prosper. 4. Because such professorships, unless numerous, would be entirely insufficient to accomplish the objects desired.

VIII. We learn that those agricultural institutions succeed best which are started and sustained by the mutual efforts and contributions of individuals, or societies, and of the government.

The schools in France, started by enterprising individuals, languished, and some of them failed, until the government lent an efficient hand. Very likely, the want of governmental patronage had something to do with the failure of the Hofwyl School, in Switzerland; and it struck me that the Agricultural College of England, at Cirencester, languishes for the same reason. It is said that in Wurtemberg, the schools succeed well, because the government started and sustains them alone. I know too little of their circumstances and condition to throw light on the subject. But sure I am, that, in this country, the mutual exertions of the government and the people will be essential to success; for this reason, if for no other, that here the people constitute the government; and if their representatives do not act in conformity to their wishes, their decisions will be reversed.

IX. We learn from European experience, that independent agricultural institutions are essential to accomplish the object which is aimed at.

1. Because the field is wide enough to require such establishments. The principles of agriculture are based upon a large part of the physical sciences; and it requires a good literary education to understand those sciences. No man can understand the principles of farming, who is not more or less acquainted with chemistry, anatomy, physiology, botany, mineralogy, geology, meteorology, and zoology; and then the practical part requires an extensive acquaintance with warious branches of mathematics and natural philosophy. Many important principles of agriculture can, indeed, be taught in the primary school or academy; but there should be, somewhere, institutions of a higher character, entirely devoted to a thorough instruction and investigation of the science of the subject.

2. Because it demands extensive collections of various kinds, in order to elucidate the principles of husbandry;

enough, indeed, to belong to any scientific institution, and too many to form a mere subordinate branch of some institution with a different object in view.

3. Because the number of instructors must be so large, that they could not conveniently form an adjunct to some other institution.

4. Because the interests of agriculture are large enough to demand an institution definitely consecrated to their promotion. No other art is so important, and, I may add, no other is so difficult to be successfully cultivated; and, therefore, every means possible should be employed to render it assistance.

X. Essentially the same reasons, and of greater force, exist for the establishment of Agricultural Schools in this country as in Europe.

1. It is the most ready and effectual mode of making farmers understand the principles on which good husbandry is founded.

Some have an idea that there are no such principles, and that the cultivation of the soil is a hap-hazard affair, and that guessing is as good a way as any, to secure good crops. I am aware that all the principles of managing land are not yet well settled, and that different circumstances often disappoint those who follow the best rules. But if there are no scientific principles on which husbandry is based, then one mode of farming is as good as another; a position which I am sure no reasonable man will take. And if one mode of tillage is better than another, there must be reasons for the difference, and those reasons are the very principles we are seeking after. Now it will be the leading object of agricultural schools to discover these principles, and to apply them in such a manner as to satisfy others that they are safe and valuable. Another object of such schools is, to detect and disprove, both theoretically and practically, any false principles and practices that may have been adopted by the community as true. The sons of farmers, who attend these schools, will learn to distinguish the true from the false principles, on this subject; and, on their return to the paternal roof, will communicate their knowledge, and apply it in practice.

In relation to the course to be pursued here, in reference to this subject, it is asked:—

What shall be the character of the Agricultural Schools, should any be established in Massachusetts? This difficult inquiry I would meet by a few suggestions. But after the survey that has now been taken of agricultural education in Europe, it cannot be expected that I should recommend, or that the community will be satisfied, with schools of an inferior class. Twenty, or even ten years ago, it might have answered to propose the introduction of agriculture into our primary schools, or as a department in our academies, or a professorship in our colleges. All this it may be well enough to do now, but something more must be done. So Europeans judge, and accordingly, as we have seen, they have started institutions with as ample a foundation, and as numerous a body of instructors, as we find in most of our American colleges. Nothing short of this, as it seems to me, will be sufficient for our country; nay, I fancy that at least one such superior institution is needed in each of our states. The work to be done is too great, the number of teachers is too many, and the amount of various collections too large, to attempt to attach an agricultural school to some other institution, and that too as only a subordinate branch. Even if agriculture is taught in our colleges, academies, and primary schools, it needs some one institution devoted entirely to the subject, to give effect and completeness to the subordinate teaching, and to carry it still farther; otherwise the agricultural knowledge will be as the literary would be, if the universities and colleges of the land were taken out of the way, and only the primary schools and academies remained.

But though our community, as I believe, especially the intelligent farmers, are prepared to appreciate the importance of such superior institutions, I fear but few are ready to devote the amount of funds requisite for putting such a seminary at once into full operation. Nay, none but those who have had experience know how large an amount of money it requires, with the strictest economy, to found and carry on successfully a large institution of learning. My hope is, however, that the government and the people will start this enterprise, if they do it at all, with a high standard in view, even though they cannot, till a considerable period, reach the height of their wishes. It seems to me that to aim much lower than the plan which follows, will be likely to make the whole subject, ere long, contemptible, or at least a failure.

OUTLINES OF A PLAN FOR AGRICULTURAL EDUCATION IN MASSACHUSETTS.

I. Let an Agricultural School or College of the superior class be established somewhere in the state, possessed of all the means (teachers, books, apparatus, specimens, farm, &c.) necessary to give a finished education in the principles and practice of agriculture. Such a school, it seems to me, should embrace the following particulars, at least:—

1. A school of instruction, by lectures and recitations, in the following branches:

a. Practical agriculture.
b. Chemistry, elementary and applied.
c. Natural history, especially zoology and botany.
d. Elementary and applied mineralogy and geology.
e. Anatomy and physiology, human and comparative
f. Veterinary medicine and surgery.

2. Collections of the following description:—

a. Models of agricultural instruments.
b. Of dried seeds.
c. Of dried grasses, grains, &c., entire.
d. Specimens planed, of useful kinds of wood.
e. A pomological collection, or models of the varieties of fruit.
f. Small collection of simple minerals and rocks for elementary instruction in mineralogy and geology.
g. An economic collection, embracing all the minerals, rocks, fossils, soils, marls, clays, &c., useful in the arts, exhibiting them in their various stages of preparation, with specimens of the finished articles, constituting what in Europe is called a museum of economic geology.

I saw three such collections in Europe; one at the School of Mines in Paris; one in London, the fruit of the Ordnance Survey; and one in Dublin, having the same origin; the two latter not yet opened to the public, but very choice and splendid collections. They must be very serviceable for all the arts.

h. Insects injurious to vegetation.
i. Stuffed specimens and drawings of the species and varieties of animals useful in agriculture.
k. A museum of human and comparative anatomy, including a manikin.
l. Chemical and philosophical apparatus.
m. A scientific and agricultural library.

Some of these collections are more important than others; but they would all be of service, and tend to give permanence to the institution. To procure and arrange them would require a long time, but they might be begun at once. I saw all of them, larger or smaller, in some of the agricultural schools of Europe, though nowhere at the same school. Indeed, many of those schools appeared to me to be quite deficient in collections, and I thought this one cause why they were in a decaying state. When literary institutions are called, as they often are, in the early part of their course, to pass through seasons of storm, good libraries, and ample apparatus, and collections, form one of the best of anchors to enable the vessel to outride the tempest.

3. A model and experimental farm of moderate size, and instruction in practical farming. I see no use in a large farm, as in general a small one, say of 100 or 200 acres, will embrace every important variety of soil, and can be more easily managed. It seemed to me that some of the European schools have farms so large as to be unwieldy.

4. Provision for instruction in Ancient and Modern languages. Such studies should not be required. But some might wish to get a little knowledge of Latin and Greek, in order to become better naturalists, and understand better the scientific terms in agriculture; and oth-

ers would wish to acquire French or German. Such instruction would be no cost to the state, as teachers might be found near at hand, most probably, in almost any part of the state, and it would render the school more attractive and respectable. It has been seen that such instruction is provided in some of the schools in Europe. It might be well, also, to provide similar instruction in the higher mathematics, as is done frequently in Europe.

5. Provision on the farm for the board of those students who are willing to devote their time to labor daily beyond what is required of all. For these extra labors, in my opinion, a compensation should be given, such as should at least meet the charge for board. This might enable many poor but worthy young men, to enjoy the benefit of the institution, who would otherwise be deprived of the privilege.

6. Number of Instructors Necessary.

1. A professor of horticulture, sylviculture, and rural legislation, who should be also chairman of the board of instructors, or president of the institution.

2. A professor of agriculture.

3. A professor of elementary and agricultural chemistry.

4. One of natural history and geology, who should be curator of the collections.

5. One of anatomy, physiology, and veterinary medicine, and surgery.

6. One of the mathematics of agriculture, such as farm accounts, irrigation, draining, surveying, leveling, construction of roads, bridges, &c.

This appears to me the smallest number of professors with which an institution could be respectable and useful, even at its commencement. The number is much less than it is at nearly all the higher agricultural seminaries in Europe. There it ranges from eight to twenty.

Besides the professors, there should be a superintendent of the farm, and of all practical operations of the establishment, who might also give some lectures, say on practical agriculture.

If one of the professors should be a clergyman, he might act as chaplain of the establishment.

7. The course of study should embrace two years. When creditably finished, the pupil should be entitled to an agricultural diploma or degree.

8. For admission, an examination should be required, in English grammar, geography, arithmetic, and Euclid's Elements of Geometry, at least the first five books. This may seem a high standard. It is higher than most of the schools in Europe. But the young men of Massachusetts, even the poorest, can easily come up to it, and thus make their subsequent course much more profitable. One great complaint in Europe is, that the pupils are unable, for want of early education, to understand the instruction.

9. The tuition should be as low as possible, certainly not higher than at the existing colleges of the state, and that is about $40. As soon as possible the instruction should be gratuitous.

10. Several scholarships, say as mnay as ten to begin with, equal at least to the tuition, should be founded by the State, to be given to the most diligent and successful pupils. Also, several prizes of a smaller amount should be offered.

This is the almost universal practice in Europe, and its operation is excellent.

11. Provided individuals shall offer ten acres of good land, to be improved as a model farm, by some academy, let the state give to that academy (not more than to one in each county,) at least $200 for instruction, and $50 for a library; provided said academy shall agree to cultivate the land, and provide for a department of agriculture; the aid from the state to be withdrawn, however, when the number of students in agriculture shall be less than ten.

12. Let a manual of agriculture be prepared by some competent person, or some existing manual be adopted, and introduced into the primary schools, if any children wish to study it. It might be well for the state to furnish the books gratis.

13. One object of these schools of a lower grade should be to prepare pupils to enter the central institution, in advanced standing, if fitted for it.

14. By the addition of a single professorship of technology to such an institution as has been described, and extending the collection of instruments to those of every art, this school might become a school of mines, as well as of commerce and manufactures, and thus afford an education to the son of the mechanic and merchant, as well as the farmer.

I do not, however, recommend that such an addition should be made at the outset, lest by aiming at too many objects, the whole be lost, as we have seen to have been the case sometimes in Europe.

15. Let the state appoint a Board and Secretary of Agriculture, who shall sustain the same relations to that interest and the schools connected with it, as the Board and Secretary of Education do to primary schools.

Two other outlines of plans are submitted, varying in several respects from the above—the principal object in the variation, being to lessen the expense in the outset. The second plan proposes that the school be "located so near some existing literary institution, that the pupils could have the benefit of its scientific lectures, and study its collections in natural history." This connection is only suggested as temporary, or to continue "until the state should be ready to endow a full corps of professors, and make the proper collections," &c.

The third plan proposes a Board of Agricultnre, as provided in the first, this Board to have the following, among other powers:

1. To appoint a secretary, one of whose duties for the present should be, to aid in the establishment of agricultural schools, and he should also be expected to give a course of lectures in the central school, should such a one be established, and his services be required.

2. To appoint a president of such central school or college, with a salary of $1,200, who should also be a professor in some department of the same; also to appoint a professor of agriculture in the same, with a salary of $1,000. Also, a superintendent of the farm, with a salary from $800 to $1,000.

3. These four officers, the president, secretary, professor of agriculture, and superintendent, should have power with the board, to select a site for such college, and purchase a farm containing from 100 to 200 acres, provided the following conditions could be realised:

1. If the school can be located near enough to some existing literary or scientific institution, for the pupils to attend its lectures, and study its collections of natural history, it being understood that admittance to those lectures and cabinets shall be gratuitous, or nearly so, and that the lectures embrace the following subjects: 1. Chemistry; 2. Botany; 3. Mineralogy: 4. Geology; 5. Zoology; 6. Anatomy, and physiology; 7. Natural philosophy.

2. If the friends of agricultural education in the place where the school is to be located, or in other places, shall raise a sum for the purchase of a farm, and sustaining the school, equal to the sum appropriated by the state, which sum shall not exceed $20,000, nor be less than $15,000; that is, the State shall not be called on to pay over $20,000 in any case to establish and carry the school through the first year.

Sketch of Putnam County, New-York.

Editors Cultivator—The county of Putnam in this state, is, I believe, but little known out of its own immediate vicinity. There are, perhaps, many reasons for this. One is, its size—being small, it does not hold so prominent a place among the other counties. It was originally a part of Dutchess, and was set off from it. By some chance or other, our Dutchess neighbors managed to keep the lion's share; but, as through their generosity, or from other causes, we became a separate *lit-*

tle Republic, having our own court-house, &c., we ought not to complain.

A glance at the map will show the surface of our county considerably dotted with the usual signs, which on a map signify mountains; and a visit here would show the traveller that we have not been slandered in this respect. This is truly a mountainous county; but amid the mountains are fertile spots and tracts of country, that will equal any part of our state in productiveness. Of these portions I shall, at another time speak. My present purpose is simply to introduce you and your readers to Putnam county.

How often do we find people travelling abroad, to far distant lands and climes, for the purpose of viewing rich and varied scenery, while they are either ignorant of, or do not care to visit that which is almost within their grasp. Here, within 50 miles of the great metropolis of the United States, is a portion of country that, in the grandeur, wildness, and beauty of its scenery, will vie with the accounts we read of many parts of California and Mexico.

I have said this is a county of mountains, but it is a county of lakes, too. Wander with me in spirit, as I hope you may one day do in person, to the top of the mountain which is just one mile from my dwelling. We will suppose it a fine spring morning. Arrived at its summit, what do you behold! Turn your eyes southward and westward, and the hills, vallies, and rolling lands, and the beautiful Lake Mohegan of Westchester county, meet your eye. Further off, about six miles distant, you see the noble Hudson winding its way through the Highlands, whose shaggy brows are reflected in the deep water that laves their base. For 20 miles and more, you see that beautiful river, studded with white sails, with here and there a steamer gliding over its tranquil bosom. But, alas, the latter grace not the Hudson's waters as they did. The scream of the whistle, and the rattle of the cars, as the sound echoes through the mountain passes, and falls upon the ear in the silence of the morn, tells the requiem of the steamer, for the present, at least. And yet we mourn not that it is so. This is the utilitarian age, and before it, romance must fade away or be turned into reality. How short a time is it, comparatively speaking, since the first steamer ascended the Hudson's waters, and when the triumph over sloop navigation seemed apparent, no doubt many a man viewed them with a jealous eye, considering them as much an innovation as many a steam-boat owner now thinks the railroad on the Hudson's margin; but still, that river now teems with sloops, and so too, at no distant day, will it again teem with steamers. Truly, there is no "fighting against destiny." The spirit of the age is onward, and in its rapid march there will be found enough for all to do.

But pardon my digression. Turn your eye eastward, and some of the finest agricultural portion of this county is before you. In the distance, about nine miles, lies Lake Mahopac, at an elevation of 1,000 feet above the Hudson, (some estimate it at 1,500 feet.) This lake is three miles long, and about nine miles around it; its depth is great, equal to that of Ontario or Erie. Like most of the lakes in this section, it has an outlet but no inlet, and is formed from springs in the bottom. Its water is so pure and clear, that objects can be distinctly seen at a depth of 30 feet. It has several islands in it; one containing a number of acres. Mahopac, for some years past, has become quite a resort for New-Yorkers and others, seeking the cool and wholesome air of the country, during the hot months of summer.

Turn northward. What a field for the study and contemplation of the geologist lies before us. Mountains of conical shape rise in every direction. What have they been? How came they there? Were they once the craters of volcanoes, that poured forth their melted lava on every side, but which have been extinct for ages? Certain it is, that no ordinary commotion has been there, whether it has been caused by fire or water. Embosomed in those mountains are several lakes. One, lake Conaope, is little if any inferior to Mahopac in beauty. It is about two miles long and three-quarters of a mile wide. Far away in the distance, you see the mountains of Fishkill, and farther, far as the eye can reach, appear the majestic group of the Catskills, breaking upon the eye like the dark cloud on the horizon of a summer's twilight. Such is one view, among many, to be found here. But you may say, what has all this to do with agriculture? Directly, perhaps it has nothing; indirectly it has something.

Many a man, doubtless, has grown up from boyhood amid such scenes, and never once, while gazing on them, has felt his heart beat with emotion; but nothwithstanding this, move him from his mountains, and ought else seems tame to him. This attachment of man to a mountain land, when that land has been his birth-place, has been told over and over again in the pages of romance and of history. A good and wise Providence, dispenses his favors with an evener hand, than we are apt to think at first sight; and he has given to the mountain-land some advantages not generally met with elsewhere. Health, that first and greatest of blessings, is generally found there. Water, the purest and best, flows in rippling rills over the hill-sides and through the vallies. There is no stagnant pool or sluggish stream there to breed disease, which mars with its dread power the beautiful residences of the low-lands.

I have known men to wander to the valley of the Mississippi, but they came back again. I have known men to wander to the prairies of the far west, but they came back again; they sighed in secret for their blue hills and crystal streams. They sighed for the healthy air of their native land.

A stranger occupying, what would seem to the eye, a far more highly favored agricultural district, free from rocks and stone, would wonder how the men of the mountains obtained a livelihood; but it is a fact that while in many agricultural districts, farmers have, comparatively speaking, nothing to sell but once a year, these men always have something—a little wood, a load of bark, a few chickens, a tub of butter, a colt or a yoke of oxen; and by the by, the latter, for working purposes, are among the finest and best broken cattle that I ever saw. They are strong and hardy, and seem formed by nature to perform the work of the country of which they are natives.

Land is valued low in the mountains. Mountain farms, as they are called, can be bought at from five to ten dol

lars an acre; a man with small means even can buy 100 or 200 acres; this gives him quite a scope for raising stock, keeping a dairy, or fattening cattle; and as much of that land he buys for 10 dollars an acre, is really worth, for grazing or dairy purposes, as much as that where land is smoother and readily sells for 50 to 60 dollars per acre, he is much the gainer, as his outlay of capital is so small. Though the plowing is rather rough, the crops when once got in and well tended, yield abundantly. I have seen very fine crops of corn, oats, rye and buckwheat, grown on these farms, and I am inclined to think, that for the actual amount of capital invested, about as much money is made upon them as upon most other farms, when subjected to the ordinary mode of culture only.

Science has not done much yet for the dwellers in rough sections of country, but let not the occupants of those portions despair; the day must and will come, when every serious obstacle to the success of the agriculturist, will disappear before the inventive genius of our American mechanics. The tide of emigration may for a time set westward, but with the rapid increase of our population, many years will not roll over our heads before it will be found better and cheaper to stay where we are, and improve our soil, rough though it be, than to leave our homes for a strange land.

But Putnam county is not all mountains; there is many an oasis here, where the eye can rest with pleasure upon finely cultivated farms. Of some of these, I shall occasionally, if agreeable to you, give you sketches, as I know no better way to disseminate useful information about agriculture, than to give notes of the plans and operations of those who are engaged in that calling, and who look to it for a livelihood. My object will always be to find out those men who, with the smallest outlay, have reaped the greatest profit, and whose farms show the effect of skill and good management. Yours truly, H. C. W. *Putnam Valley, N. Y., Feb.* 22, 1851.

Progress of Agriculture.

Causes of Improvement.---No. 5.

Many of the improvements of which we have spoken in preceding numbers, are of a very important character. They have extended the sphere of agricultural knowledge, and enabled the farmer to pursue his occupation with increased advantages, and greater certainty of reward. In view of these results, who would willingly be thrown back to the point from which we have advanced within the last fifty years? or who can regard the cost of those improvements as worthy to be compared with the benefits, past and prospective, which they have produced?

We propose now to notice some of the causes which have occasioned the advance in agriculture to which we have called attention; and shall conclude with some suggestions in regard to other objects, to which efforts for further improvement should be directed.

The principal causes in producing the improvements to which we have alluded, have been Agricultural Societies and Agricultural Publications. Neither of these causes have existed a very long time. In our own country, we recollect but three agricultural societies which had their origin previous to the present century, viz: the Philadelphia Society, organized in 1785; the New-York "Society for the promotion of Agriculture, Arts and Manufactures," organized in 1791, (incorporated 1793,) and the Massachusetts Society in 1792. The increase of these associations was very slow, and they did not become common in any of the states, till they were encouraged by legislative patronage, which has not been generally extended till within the last twenty-five years.

It is to the stimulus exerted by agricultural societies through the medium of their exhibitions, that their influence in originating improvement has been chiefly felt. These exhibitions are of quite modern date. The first in the country was held at Pittsfield, Berkshire county, Mass., in the Autumn of 1810. The society in this county was organized the following winter. The next exhibition was that of the Massachusetts Society, and took place at Brighton in 1816. The latter was the commencement of a series of exhibitions, which from the liberal premiums offered by the Society, and the extensive competition which was thus created, were productive of great benefit to the country.* This Society was the first in America to institute plowing-matches and trials of plows, (the first having been held at Brighton in connection with the annual exhibition of 1817,) which were the means of effecting some of the most important improvements the plow has undergone. The Society imported various patterns of the English and Scotch plows, which were here tested in competition with the different kinds of American manufacture—a comparison which brought out the defects and excellencies of each, and suggested to our mechanics many useful ideas which they immediately carried into practice in the construction of their implements.

But this is not a solitary instance of the influence of agricultural societies in producing improvement; the same beneficial results have been experienced in most other departments of agriculture. The public exhibitions have brought together the various products of the farm,—the different species and varieties of live stock, the grains, vegetables, fruits, butter and cheese, as well as implements,—and afforded the opportunity of making proper and useful comparisons. Perfection in all these things is only comparative, and the farmer and mechanic can form no correct idea of the real merits and value of their animals or articles, but by a critical comparison with others which are deemed to possess excellence. The facilities which agricultural exhibitions have afforded in this respect have been very great, and they have in this way been the means of originating and disseminating improvements, the value of which are beyond estimation.

In bestowing this commendation upon agricultural societies, we are not insensible to the fact that they have sometimes been mismanaged—that their organization and administration are always more or less imperfect—but these objections do not affect the main point, which is, that they are capable of being made most important aids in the cause of improvement.

* Among other enterprises which were early encouraged by this Society, was the offer of a premium of $500 for the introduction of the first five rams and ten ewes of the Merino breed. This was the means of many being imported.

But the most potent engine, probably, in the progress of agriculture, has been the PRESS. This has not only been the grand focus for the collection and dissemination of light, but by bringing mind in contact with mind, and giving direction and stimulus to mental effort, it has elicited *new* light, and brought to view truths of the highest value.

It is true, that publications on agriculture, of one description, are not new; volumes were written on the subject many years ago, and have been issued with increased frequency down to the present time. These have been highly useful as embodying the results of past experience, and furnishing guides for general practice. *Periodical* publications devoted to agriculture, are, however, of comparatively recent origin. Thirty years ago, there was only one in the United States, and it is but a few days since the enterprising founder of that one, (the late JOHN S. SKINNER, Esq.,) was laboring among us with unabated zeal. Scarcely twenty years have elapsed since the effects of these publications became visible in the country; yet in the brief period of their existence, they have doubtless contributed much of the power by which the improvements which mark the nineteenth century have been accomplished. Besides disseminating knowledge previously acquired, it is the special office of periodicals to record new facts, as they are from time to time developed; to suggest new ideas, and to discuss and elucidate unsettled questions. They furnish a medium through which farmers have a mutual interchange of views on the various points of husbandry, and subjects therewith connected. This interchange awakens and sustains a general interest in agricultural affairs. It arouses the mind of the farmer, stimulates him to investigate the principles of his calling, and to labor with greater energy. It has been well remarked in regard to these vehicles of communication, that "they inform us of the progress of our art in various districts; they refresh the memory, brighten the intellect, and improve the mind; they are vast stores of *facts*, from which many useful lessons may be learned by the studious farmer." They are, as another writer observes, "what the political sheet is to the politician; the commercial journals to the merchant—indispensible; and that farmer who does without at least one of these publications, must soon lag behind his fellows, in all desirable improvements; must soon be behind the intelligence of his age."

These publications, by their circulation through all parts of the country, have nearly revolutioned the public mind in regard to the relation in which agriculture stands to the other industrial interests. Farmers have been led to see that their vocation is not a menial drudgery, but that the cultivation of the earth is worthy to be dignified as a science. This elevation has infused into the agricultural class, a spirit of pride and satifaction, and given a strong impulse to the cause of improvement. So long as the rural population looked on themselves as occupying an inferior social position, little advance could be made in the "improvement of the soil or the mind." The eradication of this error was, therefore, the first and most essential step, and this was effected by inducing farmers to read and observe, by which they acquired that knowledge which imparts power and inspires confidence.

The Wheat Crop of New-York.

Professor JOHNSTON, after his return from America, gave an address to the East-Berwickshire Farmers' Club, in which, among other remarkable expressions, he is reported to have said—"You have all heard of the famous wheat of Genesee, where the land is more fertile than in any part of Great Britain; and I learned there that they are laying the land down to grass, because they cannot afford to grow wheat." In the same report of this address, we find the following: "In New Brunswick, Vermont, New-Hampshire, Connecticut and *New-York*, [we italicise] *the growth of wheat has almost ceased*, and is now gradually receding westward."

It is hardly to be expected, that a foreigner, who spends but a few months in the country, and whose opportunities for observation are limited to a small portion of the territory, will be able to obtain a thorough and minute knowledge in reference to its agricultural or other resources; but an honest regard for truth would certainly prompt to the exercise of caution, in all statements of an important character. But making due allowance for all the circumstances, these expressions of Professor JOHNSTON are less calculated to excite surprise, than those of a similar nature which have been made by some of our own countrymen, whose position gives to their opinions more or less weight with the public. Thus Prof. MAPES, in the *Working Farmer*, asserts that "the wheat crops of New-York are *less than half*, per acre, what they were thirty years ago." Mr. SKINNER, of the *Plow, Loom and Anvil*, regards this assertion as coming from "very high authority," and adds in "confirmation" of it, that the Hon. WILLOUGHBY NEWTON, in a late address at Baltimore, stated that the wheat crop in "the Genesee valley has fallen in production from *twenty-five* to *ten* bushels per acre."

Now we regard these assertions as entirely unwarrantable, and notwithstanding the difficulty of proving a negative, we believe it can be shown that they have no real foundation. We think the history and results of wheat growing in this state, may be briefly stated as follows:

When the country was first settled, and while the virgin fertility of the soil remained, good crops of wheat were generally obtained at little expense; but from the imperfect and exhausting tillage which was practiced, the yield gradually declined till within a comparatively few years. This retrograde tendency has been arrested by improved cultivation, and the average yield, for several years, in the principal wheat growing districts, has been steadily increasing, and is now greater than it was when the soil was first cultivated.

We are confident that the testimony of those who are best acquainted with the subject, will support this view; and though we are not in possession of such extensive data as would be desirable, we can offer some evidence which bears directly on the point.

At a discussion on the subject of wheat culture, which took place at the rooms of the New-York State Agricultural Society, in 1850, Lieut. Gov. PATTERSON said—The wheat lands in the Genesee valley, when new, produced about *fifteen* bushels of wheat per acre. They were plowed shallow—the farmers had not generally suf-

ficient strength of team to plow deep; now they plow much deeper than formerly, and obtain from *twenty-five to thirty* bushels per acre. In Livingston county, *thirty-five* bushels per acre, were obtained on some farms. His own wheat crops have sometimes been *forty* bushels per acre—has raised *thirty* bushels per acre, on sixty acres.

Mr. LAWRENCE, of Yates county, said the wheat crops in his neighborhood had been increased in yield by good cultivation. On his own farm, the yield, when he came into possession of it, was from *twelve* to *fifteen* bushels per acre. He had brought it up to *thirty* bushels per acre—raised *forty-four* bushels per acre on sixteen acres, in 1846. The crops in Yates county were generally good.

Mr. COWLES, of Onondaga county, said the oak and chestnut timbered land was generally considered best for wheat. Thirty years ago this kind of land was deemed good for nothing. It was formerly plowed about four inches deep, and did not produce well; now it is plowed from seven to ten inches deep, and the crops are good, and the land is growing better.

The same subject was alluded to at one of the agricultural discussions here during the past winter, and the fact that the average yield of wheat in this state was yearly increasing, was abundantly supported by the testimony of Hon. Mr. GEDDES of Onondaga county, Judge MILLER of Rochester, Mr. PARDEE and Mr. STACY, of Ontario county, and others. One of the speakers alluded to the fact, that according to the returns of wheat and flour received at Buffalo, Oswego, and tide water on the Hudson, in 1850, there must have been an increase of production in this state, over 1849, equivalent to 150,000 barrels of flour, and 1,900,000 bushels of wheat; and it was conceded by all, that after making reasonable allowance for the better season of 1850, over that of 1849, for the wheat crop, there would still remain a very great amount for 1850, over any previous year.

Another example in reference to the increase of the wheat crop, may be given in the county of Seneca, and this might, probably, be taken as an index to other wheat growing counties in the state, though the increase may not, in all cases, have been as great. According to the statistical returns of the state for 1845, the average yield of wheat in the county of Seneca, was *fifteen* bushels per acre.* In 1850, an agricultural survey of the county was made by JOHN DELAFIELD, Esq., now president of the New-York State Agricultural Society. In his report of that survey, to be published in the *Transactions*, the average yield of grain is set down as follows: wheat 20, barley 21, oats 38, rye 12, buckwheat 17, and Indian corn 32 bushels per acre.

Here we have an average gain in the wheat crop, of *five* bushels per acre, since 1845; and that this is not exaggerated, is evident from Mr. DELAFIELD'S remarks—"It is well known that the usual crops of a careful cultivator, are usually over 25 bushels of wheat per acre, 32 of barley, 45 of oats, 20 of rye, 20 of buckwheat, and 60 of Indian corn."

In view of this testimony, we think there cannot be a reasonable doubt that the yield of the wheat crop of the state of New-York is increasing, and that this increase is caused by the introduction of better modes of culture. By this result, also, we are encouraged to persevere in thorough and systematic husbandry, confidently anticipating still greater rewards for well-directed labor.

* The average for the state, by the returns of 1845, was fourteen bushels per acre.

"Architecture of Country Houses."

An elaborate and able review of Mr. DOWNING'S late work on the "Architecture of Country Houses," &c., from the pen of N. H. EGGLESTON, appears in the New-Englander. After a general consideration of the subject of "Domestic Architecture," the writer proceeds to notice the work referred to in the following terms:

"This leads us to the consideration of a volume, the title of which is at the head of this article, and which, with its kindred volumes from the same author, has marked an era in the bibliographic history of our country. What further remarks we have to make in regard to the general subject, we shall throw into the form of a notice of this book. Mr. Downing has here given us a work which would much more appropriately appear as a volume of the 'Smithsonian Contributions to Knowledge' than that thin quarto of Robert Dale Owen, the chief value of which appears to be in its showing what book-makers can do with clean cut type and fine paper, and in giving, by means of its engravings, to those who are not likely to visit the city of Washington, some idea of a structure which has arisen there as a monument to the generous liberality of a foreigner. In the volume now before us, on the contrary, we have something of a different sort, a book not to be laid away upon the shelves of public libraries, or to be distributed according to the judgment or caprice of a publishing or executive committee, but to be had and studied by all, from Maine to Oregon, who are willing to pay a reasonable price for it. It is not either, as many perhaps would judge from its title, a book designed for the comparatively few who are about to engage in the work of building, but it is a book for the many, for all indeed, whether in city or country, who have a house to live in. It is an attempt to set forth the architectural principles, and, to no small extent, the laws of taste which are applicable to domestic life. Aside from its mere designs, which constitute by no means its chief value, its principles and suggestions are alike adapted to domestic life everywhere. The book is eminently a 'contribution to knowledge,' a contribution of just such knowledge as is wanted, and the general communication of which to the minds of our wide spread population would accomplish an inestimable service. We thank the author for this, his most recent work, and accept it gratefully as another gift to his countrymen from one whom they have reason to account a public benefactor. If he had lived in old Rome and done as important a service as he has done for us, the Senate would have honored him with a vote, "that he had deserved well of the Republic."

Mr. Downing has sent forth his book bearing the very modest title, "Country Houses," and those who have not made themselves acquainted with the volume will be likely to gather from its name that it has to do chiefly, if not exclusively, with the abodes of our mere farmers, and is occupied with suggestions in regard to the construction of farm-houses and barns, dairy-rooms and cattle stalls. This is far from being the case. Mr. Downing is one of those who accept the saying, "God made the country and made the town," and who consequently regards the open fields, in distinction from the narrow closes of the city, as the place for true living, and where Domestic Architecture is to have the theater of her labors and the full realization of her blessed accomplishments. Accordingly, when our author treats of Country Houses, he treats of all dwellings which have their location without the range of the inspectors of streets and sewers. From the humblest home of the cottager upon some scarcely known hill-side, to the baronial mansion that flanks the majestic Hudson, nor suffers by any want of keeping there, the book now under consideration has

something appropriate to every site and to every structure pertaining to the dwelling-place of man. Nor is the author's attention confined to the mere architecture of these various edifices. Beginning with the principles which should guide in the selection of a site, and embracing not only the general style of architecture, but the more particular arrangements, both of the grounds without, and the furniture within, his attention is directed to all that pertains to the material comforts of home.

No one, indeed, who is conversant with the previous writings of the author would expect anything less than such a work as this from him. He has made Rural Architecture and Landscape Gardening, or the proper disposal and embellishment of the surroundings of home, his own peculiar province; and where he leads, the many may follow without hesitation. His book is all the more valuable and trustworthy also, inasmuch as Mr. Downing is not a professional architect nor a practical builder, and so does not advertise his own wares or offer his services to the building public for hire. He simply comes forward, after much study and experience in regard to the subject of domestic life and dwelling-places, to present certain practical suggestions in regard to it. Having no theory to advance, and no particular order of architecture to defend or glorify, he comes as the general adviser of his fellow-men in regard to that which intimately concerns their comfort.

He begins his book with a preface assigning "Three excellent reasons why my country-men should have good houses." The first is, "Because a good house (and by this I mean a fitting, tasteful, and significant dwelling) is a powerful means of civilization." The second is, "Because the *individual home* has a great social value for a people." In assigning this reason, he makes the following declaration which is well worth consideration: "It is the solitude and freedom of the family home in the country which constantly preserves the purity of the nation, and invigorates its intellectual powers. The battle of life, carried on in cities, gives a sharper edge to the weapon of character, but its temper, is, for the most part, fixed amid those communings with nature and the family, where individuality takes its most natural and strongest development." The third reason offered is, "Because there is a moral influence in in a country home—when, among an educated, truthful and refined people, it is an echo of their character—which is more powerful than any mere oral teachings of virtue and morality." Our author proceeds to remark farther, "That family, whose religion lies away from its threshold, will show but slender results from the best teachings, compared with another where the family hearth is made a central point of the Beautiful and the Good. And much of that feverish unrest and want of balance between the desire and the fulfillment of life, is calmed and adjusted by the pursuit of tastes which result in making a little world of the family home, where truthfulness, beauty and order have the largest dominion. The mere sentiment of home, with its thousand associations, has, like a strong anchor, saved many a man from shipwreck in the storms of life. For this reason, the condition of the family home—in this country where every man may have a home—should be raised, till it shall symbolize the best character and pursuits, and the dearest affections and enjoyments of social life."

Our readers will see from these liberal extracts from a preface of but moderate length, the drift and aim of the author without the necessity of further explanation on our part. Passing then at once to his subject, Mr. Downing enters upon an inquiry into "The real meaning of Architecture." In the prosecution of this, he discusses at some length the philosophy of the art, the relation which it has to beauty, utility and truth, and other points which naturally arise. Want of space alone induces us to refrain from giving our readers a specimen of the author's treatment of this part of his subject.

After this general disquisition, Mr. Downing divides the various styles of houses of which he proposes to treat more specifically, into three; Cottages, Farm Houses, and Villas. He defines a cottage to be "A dwelling of small size, intended for the occupation of a family, either wholly managing the household cares itself, or, at the most, with the assistance of one or two servants." Very properly, therefore, he insists that the cottage shall not ape the villa, but shall be kept within its just limits, and that it shall express the simple tastes and habits, and the limited means of the class by whom it is occupied. The disposition, not uncommon in our aspiring and sanguine countrymen, to go beyond their means in the construction of their dwellings, is here, as elsewhere throughout the volume before us, strongly and justly rebuked. Indeed, our author deserves no little credit for refusing, as he constantly does, to encourage even tasteful extravagancies. His principle is: first count the cost; then consider your ability; then obtain as much as possible of convenience or utility in your dwelling; then, and not till then, procure whatsoever of beauty and embellishment is warranted by your means, and will be in harmony with your tastes. Every discriminating person will admit without hesitation, that this is the proper principle. No one has a right, on the plea of style or taste, or any other plea, to live beyond his means. And if our mechanics and tradesmen just beginning life, as it is termed, or any in moderate, that is, ordinary circumstances, as to pecuniary ability, will consult Mr. Downing and those like him, they will find that very limited pecuniary resources are sufficient to secure a dwelling that will satisfy their necessities and minister to their comfort, as no pasteboard villa or gingerbread castle ever could. We cannot, of course, enter upon the criticism of particular designs in the work before us. But we should like to point the industrious day-laborer, who seeks with the setting sun his humble dwelling in the suburbs of some city, to the cottage plan, for instance, on the 129th page of this book, and show him how, with hardly the additional expense of a dollar, a little good taste would give him, with even his slender means, a house which for convenience, and simple beauty, might vie with any that wealth could erect, and which would be as bright as the evening star of his daily life of toil, to light him to the cheering and elevating comforts of a true home.

Our author very naturally has a chapter devoted to the consideration of "Materials and Modes of construction;" in which he insists upon the superior value and propriety of the more solid materials in the construction of houses of whatever class. And we can not but think that the time has come when our people should adopt a more solid material for building purposes than they have generally used hitherto. In a newly settled country, where timber is actually in the way of the most necessary agricultural labor, it is to be expected that the dwellings of a people will be constructed of this material. But with us this necessity, as it may almost be called, exists no longer, and it is well worth considering whether it is not best for us to give our dwellings a look of more substantial and enduring comfort, by the use of a more substantial material in their construction. The consideration of permanence is no unimportant element in the true idea of home. A true economy also, we think, would lead to the adoption of a more solid material than wood for the walls of our dwellings. But we cannot enlarge upon this point.

Following the author's remarks upon cottages, we find a chapter of "Miscellaneous Details," which, to any one who is about to undertake the work of building, though in ever so humble a style, is worth more than the cost of the book. What Mr. Downing has to say in regard to the other classes of dwellings—the farm-houses and the villas—it will not be important for us to consider at length after the notice we have already taken of his general scope.

In his chapters on the furnishing of houses, however, he has opened a new subject to general consideration. Treatises upon furniture and its arrangement, have not been uncommon on the other side of the Atlantic, but, so far as we know, this is the first attempt to set forth the matter in this country. It is no unimportant subject, however, nor is a treatise upon it undeserving our attention. On the contrary, we are sure that a perusal of our author's remarks would be of service to almost any house-keeper. As Mr. Downing has shown the man of slender means how he may have a tasteful cottage,

architecturally considered, so here he shows him that he can furnish it properly and even attractively without any outlay of money beyond his ability. The book closes with some extended remarks upon "Warming and Ventilating;" and we know not where to find the same amount of valuable information upon these subjects in an equal space. The question of the best mode of warming dwellings is one which has great interest to the mass of our people. We may safely say in regard to our country as a whole, that, for at least six months of the year, we are under the necessity of resorting to artificial warmth, in order to make our dwellings comfortable. Of course, the question how this warmth shall be obtained, is one of prime importance to every housekeeper. Nor is it to most persons a question of less importance, considered economically, than it is in its bearings upon comfort. But this question is not simply that of obtaining the greatest amount of heat at the smallest cost. Many have seemed to consider it so, and their mistake has been a most injurious one. They have left out an element, and that a most important one, in the real question persented for solution. That question, a question set before us for solution by the Creator himself, is how to secure at the least cost the requisite warmth in consistency with the physiological laws of our being. Leaving out this latter part of the question, we have had men, making some pretensions even to a knowledge of the laws of natural philosophy, who have undertaken to warm human beings as they would bake biscuit in a tin oven, at a cost of only three cents worth of charcoal! *Air tight* stoves have been made, by which it is professed that two sticks of wood will be almost as serviceable as a quarter of a cord under the old arrangement of things. You have only to shut the damper after the fuel is once ignited, and have the windows carefully caulked so as to be air-tight too, and then you may sit and swell and toast, and grow delightfully brown, and all at the cost of only a few cents a day. Yes, and what is more, you may become air-tight yourself, also, getting bronchitis, asthma, an unpleasant stagnation of the blood in the lungs, and divers other equally agreeable affections! No wonder that hydropathy and all the other *pathies* are in demand, and that drug shops are multiplying.

But seriously, we are beginning to find that we may warm ourselves at the expense of health though at a saving of the pocket. Yet that saving is only for the present. Better far to pay a few dollars extra for fuel now than to be obliged to pay many extra dollars by-and-by for doctors, nurses, plasters and pills. Those open fire-places and Franklin stoves of former days, with the bright shining faces and the family drawn up around it, were a source of comfort and of real social profit too, which we already have but in memory, and which our children will know hardly otherwise than as a matter of history. The open grate, however, is still left us, and the furnace is now brought within the means of almost all. These, with a proper care, provide the requisite heat without violating the laws of life; but as for stoves, we feel little disposed to thank more than one or two of all the inventors of them. The fondness of our aged people for an open fire-place, where they can see the the glowing coals and the leaping flame, is a most amiable fondness, and we trust their sons will inherit it, and indulge it so long as any thing of our forests remains. At any rate, we hope they will abjure ovens and biscuit baking except in the kitchen. We commend Mr. Downing's concluding chapter as an admirable treatise upon the whole subject of warming and ventilation, and hope that it will not be without profit to the public that he has written as he has.

Our readers cannot fail to conclude, even from our desultory and imperfect notice of the book before us, that it is a valuable addition to the stock of reading, and promises to do much for the social welfare of those who may come in contact with it. Mr. Downing has here aimed to show how much of genuine comfort can be had within the compass of a very humble dwelling, as to cost and pretensions, such a dwelling as alone it is within the means of many to command. At the same time he has undertaken to set forth the principles of taste and truth which have their application to the most costly and elaborate structures. He has given advice suited to the circumstances and wants of almost all who are, or are likely to be, concerned with the important business of house building. And we feel bound to say that this advice is eminently sensible throughout. We are glad that such a man as Mr. Downing has been moved to take the subject of architecture in hand and bring it before the public in its practical relation to human comfort. There is in all his writings a simplicity, a regard for sterling truth and honesty, a love of the beautiful in nature, an earnest desire to promote the welfare of his fellow men, which entitle him to the regard of all, and make him a valuable counsellor. The book which he has now given us, the professional builders will of course possess. It is also set forth with such beauty of paper, type, and illustrations, as make a proper ornament of the parlor table, and fit it to claim a place on any bookshelf. We would suggest whether a cheaper edition would not get into the hands of a larger class of readers than the present one is likely to reach, and that class who most need and would be most benefited by its instructions. Meanwhile, we will conclude by expressing the hope that when Mr. Downing returns from his vist to Europe, enriched as he will be by the observation of its architectural beauty, he will give us a volume upon the proper structure of school houses and churches, a class of buildings in which we are more defective if possible than in our dwellings.

Cutting and Laying Tile Drains.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., March 26, 1851.

MESSRS. EDITORS—The subject of laying tile drains, is one upon which I have written before, both for the Cultivator and other agricultural publications, but there are some reasons why it seems best to enter upon it again at the present time, After all that has been spoken and written by myself and others in favor of draining, and of tiles, it is in my experience, still the fact, that a majority of the farmers in most districts are even yet unable to tell what a tile really is, much less to say what should be done with it in making a drain. In some quarters, however, enterprising men have introduced their manufacture, and as fast as their usefulness becomes known, the demand for them is increasing. I have received letters from numerous sources, inquiring as to the nature of tiles, where they are to be procured, how they were to be laid, &c., &c.

In my "Elements of Scientific Agriculture," I have devoted part of a chapter to a description of the various kinds of tiles used, the modes of laying them, the tools employed, and the systems of arrangement best adapted to different situations and classes of soil. Mr. Colman, in his "European Agriculture," has also dwelt upon this subject somewhat at length. These books, however, are not known to all, and do not, in themselves, furnish anything more than an outline of what may now be called the *science* of draining. I find that in practice, various unforeseen difficulties arise, which are not provided for in the books, and now propose to notice some points relative to the actual working details of drainage, without referring much to theory. In doing this, I am not unaware that I may possibly err in some of my practical views, but as they have been mostly drawn from observations of real experience, they probably will not lead any one very far astray. Bye-and-bye, when time has shown the success or failure of their respective systems, some of our practical drainers must give us the details of their management. While waiting for such developments, I will endeavor to answer a few of the in-

quiries that have been from time to time addressed to me.

1. The form of tile now preferred by the best foreign authorities, is the pipe, or simple cylinder, cut in lengths, and laid so as to join end to end. This form can be made cheaper than any other, being all in one piece; for the same reason it can be transported at smaller cost, and is less liable to breakage by handling. The common objection on the part of those who have never seen these tiles at work, is, that water will not find its way into such a close connected tube. I might reason upon this subject at length, but cannot now spare the space, and will simply assure all doubters, that the water does in some way get in, and that they cannot, even by any process of packing stiff clay around the tiles, manage to exclude it. This has been proved over and over again, in practice, and is no longer a point for argument.

2. A frequent subject of inquiry is, the nature of the tools proper for cutting the narrow ditch required for tiles. One great saving in their use, is this reduced width of the drain. It is customary to run one or two deep furrows with a heavy plow along the line of the drain, thus partially throwing out from eight to ten inches of the surface. The loose earth is then cleared away by a common spade, and the next ten or twelve inches taken out by a spade of the same shape, but narrower. Another spade still, six or seven inches wide at the top, but not more than two or three at the bottom, and quite long, takes out the lowest portion of the earth, leaving just about space for the tiles to lie, and for a man's foot to rest. A peculiar scoop-shaped hoe is frequently employed to finish the bottom of the drain smoothly, by cutting out small inequalities, and removing loose earth, which cannot so conveniently be cleared away by a spade. In coarse, hard gravel, or where large stones abound, such a perfectly formed ditch as I have described, cannot well be made. In these cases the cut must be more or less irregular, and in hard soils must be much wider than is absolutely necessary to receive the tile.

3. When the ditch is completed, the tiles are carefully laid on the bottom, end to end, care being taken that no wide vacancies occur, and that each piece is firmly in its place. In a very mellow and smooth soil, it is quite possible to cut the bottom so accurately to the size of tile employed, that the pieces can be laid and held in their places by the sides of the ditch. In the majority of cases, however, this cannot be done, and it is best to wedge them in as compactly as possible, by small stones placed at proper intervals along their sides. If this precaution be not taken, they are liable to be disturbed when the earth is thrown in to fill up. The end of a single tile thrust an inch out of its place would probably cause the stoppage of a long line, so that this point must be carefully attended to. Many practical drainers recommend laying a little piece of turf, grass side down, or a bunch of straw or shavings, over each joint, in order to prevent earth from sifting in. This, of course, is a safeguard, but in ordinary circumstances it is an unnecessary expenditure of labor. If the soil thrown back has become entirely dry and powdery, enough may possibly sift in to do some mischief; but if it, or at least the first few shovel fulls, be in an ordinary state of moisture, no such result need be apprehended, provided, always, that the joints are well made, and the line firmly secured in its place. A point which is often neglected, is the proper packing of the earth in filling. This should always be done with care, so as to avoid that washing of mud into the pipes, which would be likely to occur if the soil above them were left loose and porous.

4. If any curves are made in the drain, they should be of a gradual character. It would be better to blast or remove even a large rock, than to make an abrupt curve in a long drain. It is easy to see that the tiles would not join closely together on a sharply curved line, and even if cut to fit, the danger of stoppage would be greatly increased, owing to their greater liability to get out of place. Such curves, too, retard very seriously the flow of the current, and for this reason, the drain is less likely to clear itself of many small obstacles which may obtain entrance. Where the fall is gentle, this consideration becomes of especial consequence. It was said by Mr. Smith of Deanston, that tile drains might be made to discharge water, where the fall was but *one inch* in a mile. This, obviously, could only be done by the exercise of some engineering skill in leveling, &c. Where the fall is one foot in a mile, the work is not difficult, although, even then, it must be very nicely done, and the channel very even. The greatest difficulty on a gentle fall, is found in gravelly and stony soils; it requires some patience to straighten and smooth the bottom of a ditch in such a situation.

5. Some persons have supposed that machinery is used abroad for laying the tiles. This I have never seen, and am inclined to think that there is some mistake in the matter, for I cannot see that any advantage would result from the employment of machinery in such work. A good, careful man, when the ditch has been well cleaned out and levelved, can lay the tiles and secure them in their places with great facility. Where the fall is inconsiderable, slight inequalities in the bed of the ditch, and consequent bends of the tiles, do not seem to be injurious. On the sides of hills, I have seen them laid quite carelessly, precautions only being used to keep the ends where the tiles met, in close contact.

6. That as a general rule the drains should run straight down the slope, and in parallel lines, is now considered a fact beyond all question. Such drains discharge the water better than others, and dry the ground more completely. At the foot of the slope, they discharge into a main cross drain, made of large tiles, or in some cases of flag stones. Where the slope is very long, it is recommended to run a cross drain about half way from the top. This is to prevent the liability to choke, which exists in very long drains of small diameter.

7. A pipe of 1½ inches inside diameter, is quite sufficient for the small drains, where they have not to run more than two hundred feet; for greater distances a two inch interior diameter would be preferable. Farmers among us who commence draining with tiles, are apt to spend more money than is necessary, by purchasing larger sizes, under the impression that it is not safe to use the smaller ones. If, however, any person will calculate how much water may be discharged in twenty-four hours by a pipe of one inch bore, it will be perceived that but a few such pipes constantly running to the utmost

of their capacity, would make quite a brook. The three and four inch sizes commonly used, are in ordinary cases never taxed to more than half of their capacity.

8. It is apprehended by some farmers, that the tiles would soon become choked, if laid in that mixture of sand and clay which almost runs when saturated with water. I have never seen any precautions employed in such cases, and do not believe them to be necessary. The tile itself almost instantaneously dries that part of the wet soil with which it comes in immediate contact, to such an extent that it will no longer run; it becomes a porous medium through which the surplus from the still saturated portions filters clear into the drain.

9. In quicksands, and bogs, where the bottom is very soft and yielding, it has sometimes been found best to lay a foundation of broad refuse plank or boards, upon which the line of tiles is placed. The pieces being short and heavy, are otherwise liable to sink unevenly, and gradually work out of place. Drains have been laid in this way with eight or ten feet of soft bog beneath them, and have worked well, at least for some years.

Many of the tiles that I have seen in this country, have not been well baked, owing probably to inexperience in the makers. They should be burned hard, so as to ring when struck, and show a full red color. The soft pale-colored ones are apt to crumble away in the soil, and will not stand at all when exposed to the action of frost.

I have thus answered briefly, most of the questions that have been addressed to me by different individuals, and shall be happy to give any further explanations that may be desired, as far as I am able to furnish them. Yours truly, JOHN P. NORTON.

The Dairy Business.

Butter Making.

A valuable and interesting report on the manufacture of butter, was made last season to the Worcester County (Mass.) Agricultural Society, by JOHN W. LINCOLN, Esq. The first requisite laid down for the production of good butter, is *good pastures*—such as produce a sweet and plentiful herbage. White clover and the finer grasses are recommended, and it is important that there be good water at all times accessible to the cows.

Good cows are the second requisite. On this point it is observed—

"There is believed to be a much greater difference in the quality of cows for the butter dairy, than has generally been supposed. It is known that some cows yielding a larger quantity of milk—are of but little value for the making of butter. It appears by the certificates of competitors for the premiums offered by this Society in 1848, for milch cows, that the weight of milk required to make a pound of butter, varied from 17¾ lbs. to 30½ lbs., and these cows, at least in the estimation of their owners, were considered extraordinary animals, as they were offered by them for premiums. The Chairman owns a cow, from less than six quarts of whose milk, one pound of butter was obtained, and has had others, which were considered good cows, the milk of which would not give a pound of butter to twelve quarts; and it is believed the latter quantity is better than is obtained from the average of the cows of this county. Every farmer should make trial of each of his cows separately, and if she is found not to give rich milk, she should be sold or exchanged with one who, for other purposes, may deem quantity of milk of more importance than the quality of it. For the purpose of testing the quality of the milk, a lactometer is a convenient and not an expensive instrument. Good milkers, both as regards quantity and quality, are frequently met with, and their valuable properties, it may reasonably be expected, will be transmitted to their descendants; calves from such mothers should never pass into the hands of the butchers. The quantity and quality of milk may be greatly improved by attention to the feeding of the cow; she is the machine in which the milk is manufactured, and those who wish an abundant supply of that, which is good, must see that the animal has a liberal supply of suitable materials from which to make it."

In regard to churns, it is mentioned that there is much difference in the quantity of butter which is produced by the various kinds, from the same quantity of cream. The results of some comparative trials with Galt's and Robbins' churns, are given, in which the former appeared to have considerably the advantage in this respect. A churn called "R. W. Davis' patent self-adjusting churn," is highly recommended. It is said to churn, gather, and work the butter without its being taken from the churn and without being touched by the hands. As a churn, it is said not to be inferior to any of the rotary churns, and being able to work the butter, it is thought to have a great advantage over all others known to the author of the report. The price is said to be $4,50 to $6,50, in proportion to size. They are made by Fairbanks & Stone, Westboro, Mass.

Rapidity of Churning is discouraged, as tending to produce an inferior quality of butter. On this point reference is made to Prof. NORTON's *Elements of Scientific Agriculture*, as follows:

"Several churns have been exhibited lately, which will make butter in from three to ten minutes, and these are spoken of as important improvements. The most carefully conducted trials on this point, have shown that as the time was shortened, the butter grew poorer in quality, and this is consistent with reason. Such violent agitation as is effected in these churns, separates the butter, it is true, but the globules are not thoroughly deprived of the casein which covers them in the milk; there is consequently much cheesy matter mingled with the butter, which is ordinarily soft and pale, and does not keep well. Until the advocates of very short time in churning, can show that the butter made by their churns is equal in quality to that produced in the ordinary time, farmers had better beware how they change their method, lest the quality of their butter, and consequently the reputation of their dairy, be injured."

A brake, similar to those which were described in the Cultivator for 1846, pp. 187, 240, is recommended for working butter, instead of the hands. A wooden table is thought preferable to marble, to work the butter on.

The mode of manufacture practiced by CHARLES E. MILES, whose butter was pronounced of very superior quality, is in substance as follows: The cream is not allowed to change by standing, before it is churned. Crowell's Cylinder Thermometer Churn is used. After the churning is well done, the buttermilk is drawn from the churn, and cold water put therein, and the butter thoroughly dashed to extract the buttermilk. [It is proper to remark, that the chairman of the committee who made the report, objects to the use of water for this purpose, as "wholly unnecessary, and prejudicial to the butter."] The butter is then seasoned with with salt—about an ounce of salt to a pound of butter; it is then

thoroughly worked upon a butter table, by the aid of a brake—not allowing the hand to come in contact with the butter. By the use of butter-paddles, it is then moulded into pound lumps, and fitted for the market.

Good salt is regarded as of much importance. It varies much in strength, and none but that which has been proved to be good, should be used.

Vessels for keeping. Stone pots are recommended for this purpose, in preference to wood. If wood firkins are used, they should be made in the most thorough manner, and be thoroughly soaked in strong brine before the butter is put into them.

A good milk-cellar is thought of great importance.

"It should be cool, having windows to allow a free circulation of air. To prevent the admission of the rays of the sun by the windows, and thereby render temperature in the cellar less cool, it would be well to have blinds secured with hinges to the building at the upper side of the blind, that it may be turned up against the building and buttoned there when not in use, and when wanted let down to a horizontal position, where it will be retained by resting on stakes at its extreme corner, in which situation it will screen the cellar, and at the same time allow a free circulation of air. The milk vessels should not be allowed to stand on the bottom of the cellar, but should be placed on shelves suspended from the top in such manner that the milk may have the benefit of the pure air. Care should be taken that no milk be spilt, or any thing allowed to be therein that may produce any unpleasant smell, which will be sure to taint the milk and thereby injure the butter."

Lastly, *a good dairy-woman* is considered of more importance than all.

"On her skill and good management frequently depends the question whether the farmer is to obtain the highest market price, or a sum insufficient to pay for the labor bestowed in making the butter. The most perfect cleanliness must be observed in all the stages of its manufacture. The pan and pails, should be frequently washed, scalded, and sunned, and all the utensils kept perfectly sweet."

Skim-Milk---Butter from 16 Cows.

EDITORS CULTIVATOR—In estimating the value of the productions of a butter dairy, the buttermilk and skimmed milk are items of much importance. But few dairymen, perhaps, have much knowledge, or even very definite ideas, of the actual value of these articles, as they are generally mixed with other food before they are given to hogs and calves. From my manner of feeding my skimmed milk during the past season, I have been able to make a very correct estimate of its value. I milked sixteen cows. When I commenced feeding sour milk last spring, I had one hog worth,..... $4 00
I then bought a pig for,..... 2 00
June 1st, bought two pigs at $1.12½..... 2 25
June 1st, bought one hog,..... 6 00
I fed these hogs in the fall 16 bushels ears of corn ground with cob, worth 25 cent per bushel, 4 00
$18 25

which was all the grain they had of any kind.

The hogs were confined to the pen all summer, consequently there was no expense for pasture. When butchered, they weighed 1,300 lbs. at 5c. per pound,..... $65 00

I also raised nine calves, entirely on skimmed milk and butter-milk, which were worth $4.00 each, when weaned, at about four months old,.. 36 00
$101 00
Deduct value of hogs, and grain fed,..... 18 25
Value of sour milk from 16 cows,..... 82 75

The value of the sour milk from each cow it will be seen is a little over $5.00.

The 16 cows made during the same season 3,200 lbs of butter—two hundred pounds each—which shows that sufficient milk to make one hundred pounds of butter, is worth $2.50, after the butter is all taken out. SLUMAN L. WATTLES. *Sidney Center, Delaware county, N. Y., March* 6, 1851.

Large Yields of Butter.

The Windsor (Vt.) *Journal* gives some remarkable yields of butter, as follows: DANIEL RITTER, of Weston, made and sold the past season, 479½ lbs. of butter from two cows, in addition to what was used by his family of two persons. This is within a fraction of 240 lbs. from each cow. JOHN CAMERON, of Rygate, made from five cows, 1090 lbs. butter, and over 200 lbs. cheese, or, exclusive of cheese, 218 lbs. butter from each cow. JOHN G. CLARK, of Tunbridge, states that he made, last season, from one cow, "besides using cream and milk for a family of six persons," 255½ lbs. butter.

The Veterinary Department.

Cure of Wens in Cattle.

In answer to the inquiry of Mr. TODD, in our March number, respecting the cure of wens, we have received several letters.

J. CUMMINGS, Huntington, Ct., describes three kinds of wens. The first he calls a "bone wen," and thinks it always appears on the jaw. He says—"it will sometimes eat holes through the jaw in four months; but may remain a year or more before doing much injury. There is no cure for this wen. There is no better way than to begin to feed the animal as high as it will bear as soon as the wen makes its appearance, and let the butcher take the animal as soon as it is fat enough." The "flesh wen," he says is easily cured. He directs that it be cut out when it has reached the size of a hen's egg. This kind never adheres to the bone. He states that he has taken out six at a time from an ox five years old—the largest the size of a goose's egg. The third which he describes, forms near the bone, but never breaks of itself, owing to the thickness of the flesh and skin over it. He directs that it be opened on the lower side, so that the matter may readily discharge from it. He says he has known this kind to discharge for a month—the matter having the appearance of a rotten egg, and very offensive to the smell. It is recommended to rub tar round the opening, in warm weather, to keep off flies.

H. COLLINS, of Berkshire, Tioga county, writes—"In reference to wens on *jaws* of cattle, I will hazard the assertion that there is seldom, if ever, a cure effected. The cause, I think, in all such cases, is a bruise on the jaw, or defective teeth, ulcerating the jaw-bone and creating the tumor called wen. I came to this conclu-

sion years ago, from slaughtering cattle effected in this way; from examining the mouths of those and others I have known, I am confident that in every case like the one described by Mr. Todd, there was defective teeth against the tumor. To extract the defective teeth, when the tumor is first discovered, may, perhaps, effect a cure, yet I think it doubtful."

Cure for Scratches in Horses.

A subscriber in Virginia sends us the following recipe, the efficacy of which he says he has proved:

1 lb. copperas, } pulverized.
1 oz. blue vitrol, }

3 pints good vinegar,

¼ pint spirits of turpentine.

Mix thoroughly in a bottle, and it is fit for use. Apply it with a swab.

Foot-rot in Sheep.

There are various modes of treating this disease, but we know of none more simple and effectual than an application of blue vitrol. R. HERRICK, of Essex, Vt., describes his mode of treatment in the Boston Cultivator, as follows:

"For one hundred sheep, from 2 to 2½ lbs. oil of vitriol, 1 lb. blue vitriol, pulverized, 1 lb. burnt alum, dissolved in four quarts of soft water. But the main thing is yet to come. *The hoof must be cleaned and pared;* cut to the bottom of the sore, but be careful not to draw blood, for that will prevent seeing the diseased part. Clean and pare till the hoof is white all over; then dip it into the above preparation. Repeat the paring and dipping once in ten or twelve days, till all are sound. Three to five times will ordinarily effect a cure. The foot rot is much more easily cured in cold than in warm weather."

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Lime for the Curculio.

Much having been said in favor of lime as a remedy for the curculio, and as the time is approaching for its yearly assault on young fruit, the knowledge of past experiments becomes desirable. A near neighbor,—who is a distinguished fruit raiser,—tried lime in nearly all imaginable ways last year, and with the following results.

Nectarines, plums, and apricots, were thoroughly syringed with thin lime wash; and as each successive rain and heavy dew carried it off from the smooth surface of the young fruit, it was re-applied as often as necessary. Special attention was given to the nectarines, which for six years of blossoming had yielded no crop; and to be still more secure against this, the lime was applied carefully with a brush to each young nectarine. About three days in the aggregate were spent in this way; and the result was, that the full number of six entire specimens of the nectarine were saved from destruction out of the whole orchard. But on further inquiry it appeared that these six all grew on a tree under which a young calf was kept confined during the season of operation; and to whose presence, chiefly, these specimens owed their escape.

The lime was believed to have a repelling influence, and some hopes were at first entertained of its efficacy; but it was soon discovered that the coating was disregarded, and the eggs were thrust through it into the green pulp. The whole trees with their entire crop of leaves whitened with lime, did not present a very ornamental appearance.

The application of lime appears to have been elsewhere in some cases quite successful—it becomes a subject for inquiry whether any collateral influences assisted it; whether the favorable result was not owing to something else, and was erroneously ascribed to the lime.

Protecting Half-Hardy Plants.

[Extract of a letter from DAVID THOMAS, dated 3 mo. 1, 1851.]

Evergreens are believed to afford a better protection to half-hardy plants than dry vegetable matter; and when thickly applied to shrubs and young trees, and banded, succeed remarkably well. But in this climate it is dangerous to remove the covering much before the close of the 4th month. Unless the plants be making vigorous and etiolated shoots, (as the Greville rose is apt to do) it will be better to let every thing remain till the danger from even severe white frost is over and past.

A fine young tree of the Pride of India (*Melia azedarach*) 4 or 5 feet high, I once thoroughly and thickly encased with hemlock boughs; and though I have now no hope that a plant so decidedly southern will ever endure our winters without the most ample protection, yet when I removed the bandages early in spring, there were no traces of damage from the cold. A warm spell about the middle of 4th month however, which tempted me to trust it, was succeeded by severe weather, and it perished. The sun had been allowed to shine on its frozen limbs, and the rough winds to chafe them. I have never repeated the experiment.

For low evergreen plants, such as the Auricula or Primrose, a cabbage leaf answers completely; and nothing can be more conveniently procured. * * * *

When walking in the garden after the snow went off, I was pleased to observe how slight a covering was sufficient to protect half-hardy shrubs. Late in autumn, I had *laid* the Chromatella, Souvenir de Malmaison, and Solfatare flat on the ground, covering them but slightly, yet sufficiently to prevent their radiating heat to the open sky; and there they repose, uninjured by more than 30° of frost. Without this intervention, as a correspondent remarked to me in a letter, "they would have died half a dozen deaths."

Utility of the Cultivation of Flowers.

The chaplain of the Utica Asylum for the Insane, writes, "The Institution with which I am connected is flourishing. It is mournful to see so many persons bereft, in different degrees, of reason; and the more especially when we consider that very few of them have become so by the soverign providence of God; and that in the large proportion of cases, it is traceable to early misgovernment, intemperance, prodigality, mortified ambition, &c. Let us feel the importance of cultivating temperance, self-government, intellectual and moral sources of enjoyment, and above all the affections of religion,—as the greatest sources of happiness to our children and to all.

It should not be forgotten that the *love of home, the cultivation of Fruits and Flowers*, and all those employments which enliven and bless home, were intended by God to contribute to mental equanimity."

Trellis for Grapes.

One of the cheapest and most durable structures for this purpose, is described in a late number of the Western Horticultural Review. Substantial and durable posts are set in the ground fifty feet apart, those at the ends being planted deeply and firmly. Through these, half-inch holes are bored at twenty, forty, and sixty inches from the ground, and good annealed No. 8 or 9 wire passed through. It is fastened at the outer-posts by driving into the hole from the outside, a pin of hard wood, around which the wire is wound close to the post, which prevents it from drawing through. Intermediate supports, if wanted, are made by driving stakes having notches cut obliquely downwards with a saw for each wire, and fastening with a nail. One or two additional wires in height would be preferred by most cultivators. A coat of white paint on the wires, would remove the objection sometimes made to them,—that of becoming too much heated in the sun.

Protection of Grape-vines from Rose Bugs.

EDS. CULTIVATOR—After many trials, I think I have discovered a *very easy, cheap*, and *effectual method* of protecting *grapes* from the ravages of the *Rose bug*. The history of the discovery is as follows: Being situated in East Haddam, Connecticut, where we have steamboat navigation, and facilities for transportation to almost every part of the country, I concluded to commence the cultivation of Isabella Grape-vines, for market. When I first began my grape nursery, I was surprised to find that the *Rose bugs*, which were so destructive elsewhere, did not meddle with my vines in the nursery; but at first I supposed that it was because the vines were in a new place, where the bugs did not happen to find them. The like happened from year to year, till I began to think that it was because these vines lay on the ground, that the rose bugs did not meddle with them. To determine this point, I laid some branches of my larger vines on the ground, and had the satisfaction of finding that the *buds*, *blossoms* and *fruit*, which were formed within a few inches of the ground, were *never* molested by the rose bug. I then concluded, that I had made a desirable discovery, and I requested a number of my friends to try it, and their success has corresponded very exactly with my own. So that for the last two or three years, when the rose bugs have been very abundant, my friends and myself, have been uniformly successful in preserving from their ravages all the grapes which grew on those vines, which we laid on the ground, before they leaved out. The rose bugs *never* disturb the grapes after they begin to have a sour taste. This taste they generally acquire, as soon as they attain the size of large shot. At this period of their growth the grape-vines should be set up on a trellis, the side of a building, or a fence or tied to stakes, or put into other situations which will allow them plenty of both air and sunshine; for the grapes which *continue* to be on the ground, do not grow and ripen as well as those which are set up. The vines should be laid down before they leave out in the spring.

By this method of proceeding, I should think that I I last year obtained more fruit, from one of my grape-vines, than the whole amount which I had obtained from that vine, by every other method which I had tried with it, in 20 years before. By this method of proceeding, my Isabella grape-vines, have several times, been so much overloaded with fruit, that it became necessary to lighten their load considerably, in order to prevent the whole from blasting. And here let me say to the lovers of good grapes, that when the fruit on a vine, which is heavily laden with fruit, begins to turn brown, and appears to be sunburnt, both the good of the vine, and the value of the crop, require that the vine should be unloaded of a part of its burden.

In setting up the vines which have been laid on the ground, it is highly important, that they should be put up in such a manner that the same sides of the leaves, which grew next the sun, while the vine lay on the ground, should be placed next the sun when the vine is set up again, otherwise the health and vigor of the vine will be so much injured, that the growth of the fruit will be checked.

If the vine is to be set again in a *perpendicular* posture, the *spreading* branches of some tree, may be cut off, before they leave out, and the vine may be laid on these leafless branches and tied to them, or a moveable trellis may be laid on the ground, either west, north, or east, but not south, from the roots of the vine. The vine may be be laid on this trellis, and tied to it, and at the proper time, the vine with the trellis, or the branches of the tree, may be set up, with much less injury to the branches and leaves of the vine, than if the vine was brought up alone. And if the vine is laid down west, or north, or east from its roots, there will be much less difficulty, in placing the leaves, in a proper position, than if the vine was laid down south of its roots. The sooner it is set up after the grapes are large enough to be safe against the rose bugs, the less will the vine be injured by moving.

But where there is room, and where it is advisable to place the vine in a *horizontal*, instead of a perpendicular position, poles or rails of a sufficient length, to give suitable expansion to its branches, may be laid on the ground, and across the trunk of the main branch of the vine, at the distance of perhaps three feet from each other, and beginning perhaps four feet from the main root, then the vine may be laid down on the poles or rails, with the branches extended, in such a manner as to give plenty of room for the air and sunshine. And when the proper time arrives to set up the vines, the ends of the poles, or rails, may be laid up on to crotches, or posts, three or four feet high, and the thing is done at once.

I shall not attempt at this time, to tell the reason why the rose bugs will not eat the grapes which lie on the ground, but a number of years' experience, has uniformly shown that they *will not* do it. ASA M. HOLT. *East Hoddam, Conn., Feb.*, 1851.

HORTICULTURAL PRIZES.—The Boston Horticultural Society, always first in liberality, means and enterprize, awarded the past year, $650 for flowers, plants, &c.;

$623 for fruits; $142 for vegetables; and $155 for gardens and grounds. The same society has offered for 1851, the following sums in prizes: For fruits, $500; for plants, flowers, &c., $700; for vegetables, $250; prospective prizes for new varieties, $750.

The Curculio.

In answer to repeated inquiries, now that the curculio is about to visit us, we shall briefly give the mode of destroying this insect, by jarring down on white sheets, according to the best improvements which have been made.

First, with regard to the mode of beating the tree,—if the bark of the trunk or branches is struck, it soon separates from the wood and makes a bad wound; and if the mallet is wrapped in cloth, or cushioned, the blows become much less effective, and only a part of the insects are felled. Besides, even a cushioned mallet will after a while injure the bark. This difficulty may be avoided in two ways,—either by sawing off a small branch, leaving a short stump to thump against; or by forming a concave block so as to fit the trunk, and striking against this block,—the force of the blows on the bark becoming so softened as not to bruise the bark, in the same way that a hammer does not injure the knees when a lap stone is interposed.

Secondly, with regard to the easiest way to catch and kill the falling insects. If white sheets simply are spread under the tree, either several persons are needed to carry and spread them, or much time is consumed by a single individual. The work is made expeditious by stretching each sheet on light wooden frames. two separate frames being attached to each sheet, so that it may be folded or doubled together like the leaves of a newspaper, or the covers of a book. The great advantages of this arrangement are,—one operator may walk singly through the orchard, with two such folding-sheets in his hand, and extend these in a moment without assistance, under each tree; and after jarring down the curculios, instead of being compelled to search over the white surface for them, and to crush them singly between thumb and finger, the sheets are folded so as to throw insects, punctured fruit and all, into a pail of hot water. A few minutes are thus sufficient to go over a large fruit garden.

As to the efficacy of this mode, it is scarcely necessary to repeat here that it depends almost wholly on being unremittingly applied at least once a day, from the moment the young fruit begins to set, when not so large as a pea, till no more curculios can be found, or for several weeks. In one experiment, 18 of these insects were caught from a small plum tree at the first trial, yet by regular daily attention, a good crop was secured on this as well as on many other trees, which for previous years had never ripened one. Combined with the practice of confining pigs or poultry, this remedy can scarcely fail in the most unfavorable localities or in the most destructive years.

The Working Farmer.—The third volume of this publication was commenced on the first of March, under the charge of A. Longett as publisher, and Prof. J. J. Mapes as editor. We presume the work will contiuue to support the character it has so well maintained since its commencement. It is issued monthly at one dollar a year, in advance.

NEW PUBLICATIONS.

The Flower Garden; or Breck's Book of Flowers; in which are described all the various hardy herbaceous perennials, annuals, shrubby plants, and evergreen trees, desirable for ornamental purposes, with directions for their cultivation, by Joseph Breck. Boston: John P. Jewett & Co.

In this book, Mr. Breck has supplied a want long felt by a portion of the American public, while at the same time, the information which the work dispenses, is calculated to remove one of the greatest obstacles to the cultivation of flowers in this country. The author is well known as a successful horticulturist and florist, and his practical writings, as editor of the New England Farmer and the Horticultural Register, may be taken as showing the general character of the work before us. Its object is the "diffusion of general knowledge and practical information in relation to the floral kingdom, particularly for hardy trees, shrubs and plants, desirable for the embellishment of the flower-garden and pleasure ground." It is a handsome volume of upwards of 300 pages 12mo., printed in good style, and we presume will meet with an extensive sale.

The Gardener's Text-Book: containing practical directions upon the formation and management of the Kitchen Garden, and for the culture and domestic use of its Vegetables, Fruits and Medicinal Herbs, by Peter Adam Schenck. Boston: John P. Jewett & Co.

This is a manual of gardening by a writer who appears to speak from his own experience. So far as we have examined, his directions are clear, comprehensive, and safe. It will be found a valuable aid to the kitchen gardener, furnishing many useful ideas and suggestions in regard to the proper composition of the soil, and the treatment required by the different articles which he may wish to cultivate.

Cattle, by W. Youatt and W. C. L. Martin, being a Treatise on the Breeds, Management, and Diseases, comprising a full history of the various races; origin, breeding, and merits; their capacity for beef and milk; the nature and treatment of their diseases; the whole forming a comple guide for the Farmer, the Amateur, and Veterinary Surgeon, with 100 illustrations. Edited by A. Stevens. New-York: C. M. Saxton.

Youatt's work on Cattle is one of established merit, and Martin's, published at a later period, is also of high character and value; but it strikes us as a great objection to the work whose title is given above, that there is no rule by which the reader can know what portions belong to the respective English authors, or what alterations or additions have been made by the American editor. There are, however, some additions which are *acknowledged*—of these we shall take occasion to speak hereafter. The work is "got up" in very handsome style.

"The Soil of the South."—We have received two numbers of a monthly journal with this title, published at Columbus, Georgia. It is edited by Chas. A. Peabody, Esq., and Col. James M. Chambers. It appears to be conducted with good judgment, and will, we trust, be the means of dispensing much valuable information in regard to agriculture. The terms are one dollar a year, in advance.

FANCY LOP-EARED RABBITS.

Breeding and Management of the Rabbit.

The domestic rabbit, in all its varieties, has always been, and still is, a great favorite in many parts of the European continent.

In Holland, it is bred with reference to color, only, which must be a pure white, with dark ears, feet, legs, and tail; this distribution has a singular effect, but, with all, it is a pretty little creature. The French, breed a long, rangy animal, of great *apparent* size, but deficient in depth and breadth, and of course, wanting in constitution; no attention is paid to color, and its marking is matter of accident. The White Angola, with its beautiful long fur and red eyes, is also a great favorite in France.

In England, the rabbit formerly held the rank of "farm stock!" and thousands of acres were exclusively devoted to its production; families were supported, and rents, rates, and taxes were paid from its increase and sale. The "*gray-skins*" went to the hatter, the "*silver-skins*" were shipped to China, and were dressed as furs; while the flesh was a favorite dish at home. This was the course pursued in Yorkshire, Lincolnshire, and many other counties, with their light sandy soils, before the more general introduction of root culture, and the rotation of crops, gave an increased value to such land. Since then, however, I remember visiting a farm of Lord ONSLOW's, in Surrey, containing about 1,400 acres. It was in the occupation of an eminent flock-master and agriculturist, who kept some hundreds of hutched rabbits for the sake of their manure, which he applied to his turnep crop; added to this, their skins and carcasses were quite an item of profit, nothwithstanding the care of them required an old man and boy, with a donkey and cart. The food used was chiefly brewer's grains, miller's waste, bran and hay, with clover and roots, the cost of keep not exceeding two pence a week. The hutches stood under a long shed, open on all sides, for the greater convenience of cleaning and feeding. I was told that the manure was much valued by the market-gardeners round London, who readily paid 2s. 6d, a bushel at the rabbitries. These rabbitries are very numerous in all the towns and cities of England, and form a source of amusement or profit to all classes, from the man of fortune to the day-laborer. Nor is it unfrequent that this latter produces a rabbit from an old tea-chest, or dry-goods box, that wins the prize from its competitor of the mahogany hutch or ornamental rabbitry; for the feeling on such occasions certainly is—"stand back, fair-play, and let the best win."

Clubs and societies abound for the breeding and exhibition of the "Fancy-Lops," now the favorite rabbit in England, and originally imported from Madagascar. Much pains have been taken, and much money spent, to bring them to their present perfection in form, color and size; all which are minutely attended to, and not very easily combined in any one animal, and hence they form an admirable test of skill on the part of the breeder.

For instance, a rabbit to come out a winner, at one of those exhibitions, must possess all the points of symmetry in common with the larger animals of the improved breeds; such as, a small clean head, wide and full shoulders, broad and deep chest, a wide back, large loin, full quarters and fine bone.

Some of us, I suspect, find it no easy matter to get even thus far in the catalogue of excellencies; but to all these essentials are to be added the more *conventional*, and perhaps the more difficult points, of beauty and fancy, as laid down by the various societies; embracing not only form but color,—but the particular disposition and forms of color.

A prize rabbit, then, must possess, besides the before mentioned properties, a full, round, clear eye, an ear (colored as the body,) long and broad, of a soft delicate texture, dropping alike and nearly perpendicularly down by the side of the cheek, with the convex of the ear, turned rather out than in. This is termed its "*carriage*." The color on the body must be in strong rich unbroken masses, spreading itself uniformly over the back, sides and haunches, called the "*saddle*," but breaking into spots and patches on the shoulders, known as the "*chain*." The head must be full of color interspersed with white on the forehead and cheeks, while the darker marking on the point of the nose and on each lip, goes by the name of the "*butter-fly*," from the resemblance it should bear to that insect. Add to all this a large full dewlap, beautifully white, which spreads itself (when the animal reposes) over the fore feet and forms a rich cushion for the head. All this, combined,

would indeed form a perfect lop-eared rabbit, worthy to enter, and likely to win the prize collar, be it of gold or silver; and the breeder may be proud of his success, though it be but a rabbit. Much consequence is attached to the length, quality and carriage of the *ear* in awarding premiums. I was indifferent to this point of length, and purchased much lower in consequence, paying from ten to forty shillings sterling, a piece, for those I imported, according to age and quality; whereas five guineas is not an uncommon price, and individuals have been sold as high as thirty guineas! The consequence of my selection is, that out of fifty rabbits, in my rabbitry, I have not one that will exceed eighteen inches length of ear from point to point! whereas the Illustrated London News of May, 1850, gave portraits of the two prize rabbits at the Rochester show, "from the excellent stud of Mr. Geo. Towell, measuring in length of ear 21¾ inches and 21¼ inches and nearly five inches wide."

Of those sent by the Queen from her own stock, to the Pacha of Egypt, none exceeded 20 inches, but they were beautiful in color and form.

The usual colors are black, blue, gray, yellow, and tortoise-shell, on white grounds. These are called "*broken colors;*" when not mixed with either, they are termed "*selfs.*"

The food of the rabbit embraces great variety, including grain of all kinds, bran, pea-chaff, miller's waste, brewer's grains, clover and other hay, and the various weeds known as plantain, groundsel, dock, mallow, dandelion, pursley, thistles, &c. &c.

The rabbit thus easily conforms itself to the means, condition, and circumstances of its owner; occupies but little space, breeds often, comes early to maturity, and is with all, a healthy animal, requiring however to be kept clean, and to be *cautiously* fed with *succulent* food, which must always be free from dew or rain—water is unnecessary to them when fed with "greens." My own course of feeding is, one gill of oats in the morning with a medium sized cabbage leaf, or what I may consider its *equivalent* in any other vegetable food, for the rabbit in confinement must be, as already stated, cautiously fed with what is succulent. At noon I feed a handful of cut hay or clover chaff, and in the evening the same as in the morning. To does, when suckling, I give what they will eat of both green and dry food. The cost to me is about three cents per week, per head.

I by no means recommend this as the best, or the most economical mode of feeding, but it happens to suit my convenience. Were I in a town or near mills, I should make use of other and cheaper substitutes. My young rabbits, when taken from the doe, say at eight, ten or twelve weeks old, are turned out together till about six months old, when it becomes necessary to take them up and put them in separate hutches to prevent their fighting and destroying each other. The doe at that age is ready to breed, her period of gestation is about thirty-one or two days, and she produces from three or four to a dozen young at a "litter." It is not well to let her raise more than six or even four at once—the fewer, the larger and finer the produce.

Young rabbits are killed for the table at any age from twelve weeks to twelve months old, and are a very acceptable addition to the country larder. The male is not allowed to remain with the doe, lest he should destroy the young ones.

Hutches are made singly, or in stacks, to suit the apartment, which should be capable of thorough ventilation. The best size is about three feet long, two feet deep, and fourteen inches high, with a small apartment partitioned off from one end, nearly a foot wide, as a breeding place for the doe. A wire door forms the front, and an opening is left behind for cleaning; the floor should have a descent to the back of the hutch of two inches. All edges should be tinned to save them from being gnawed.

Having now given the leading characteristics and qualities which constitute a good "fancy lop-eared rabbit," and its general management, allow me to remark on the striking difference observable between Americans and the people of many other countries, as to a fondness for animals, or what are termed "Fancy pets," of and for which we, as a people, know and care very little. Indeed we scarcely admit more than a selfish fellowship with the dog, and but too seldom does our attachment even for this faithful companion, place him beyond the reach of the *omnipotent dollar.*

In England, and in other parts of Europe, a love for animals, with the attendant personal care necessary to their comfort, is encouraged from childhood up, as having a beneficial influence on the character. To the young it is another occupation, full of varied interest, added to the list of *home* amusements and attractions, so desirable, and sometimes so difficult to provide for them.

The operatives, mechanics and laborers, in other countries, seem to have a perfect passion for such pursuits, and take the greatest interest and pride in breeding and perfecting the lesser animals, though often obliged to toil for the very food they feed to them. Here, too, home influences are perceived to be good, and are encouraged by the employer, as supplying the place of other and much more questionable pursuits and tastes.

In relation to the man of leisure and science, I would remark that, as the artist delights in the power of moulding the inert clay into life-like form, so does the intelligent and amateur breeder, find infinite pleasure in the yet higher, and more difficult art, of modelling the live material into its most symmetrical proportions. And why should there not be as much satisfaction in producing what is excellent on a small, as on a large scale? Is not the statuette as beautiful, and is it not as much an effort of genius and art as the statue?

To myself the rabbitry is a "Studio," whereof the material is cheap, rapidly produced, soon perfected, very abundant, and occupying a small space, and is thus brought under my own immediate care and observation, with but little trouble; requiring months, only, instead of years, to *practically test* theories and speculations, and for studying some of the most important, but not understood, laws of nature. Such as, how far it may be safe to use close affinities? And if deteriorating, what are the first and warning symptoms? In what order does the animal structure give way under a persisted course of such breeding? The same as to cross-breeding, and how far the control of the breeder is diminished by its continuance; the comparative

influence of the parents on the offspring, and how evinced. These and many other unsettled questions, involving the first principles of breeding, would require almost a lifetime to decide by experiments on the larger animals, to say nothing of the large outlay it would require, and the serious losses that might reasonably be expected to attend it.

With all due value for the very important assistance rendered the agriculturist by analytical chemistry, I would sooner trust the practical experiments of the rabbitry, as to the value of the different kinds of food, than I would the analysis of the laboratory! And though one may prove, that a bushel of ruta-baga be little more or less than a pail of water, yet if the other showed me that turneps, as the principal food, with but two ounces of hay per day, to the rabbit, developed the animal frame by a healthy growth with an abundance of muscle and some fat, I should be strongly tempted to pour out the water, and pour in the turneps.

I am inclined to think there is as much science, and perhaps interest, in breeding a "*carrier-pigeon*" up to its highest capabilities as in breeding a *race horse;* and I very much doubt if there is more care necessary or greater attention given to the purity of blood, the training and running of the one, than is bestowed on the nice breeding, exercise and flight of the other! Large sums of money depend, in the sporting world, upon the courage, speed, and bottom of both.

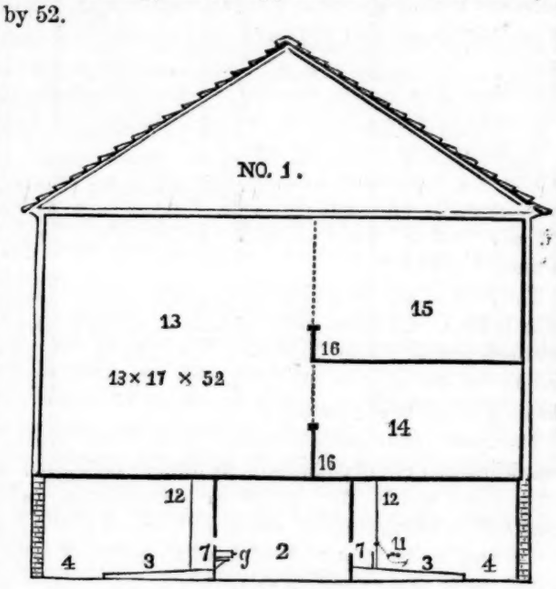
Hardly is the celebrated "Derby" over, and the winner proclaimed, when pigeons may be seen rising from all parts of the course, prepared to make another race of strengh and speed. These are watched, and bets made, as to which bird "*will be off first*," with an interest but little less than that which had, but a few minutes before, been bestowed on the horses. The birds tower over head, wheeling round and round, enlarging their circles as they rise higher and higher, until, with unerring certainty, they have made good their point, decided on their course, and then, with astonishing velocity, take a "*bee-line*" to their several destinations. At the club-houses, betting-rooms, printing offices, and lotteries, members are waiting their arrival, watch in hand, and perhaps an express in the saddle, to take advantage of the *first* knowledge of the result to be brought by the fastest bird.

To all this, I am well aware, the question will arise with very many of your readers—*Cui bono?* and the conclusion as definitively follow—"*It won't pay.*" Perhaps not; and yet I believe that were the thing tried and a small club formed for the purpose of exhibition and experiment, that it would become, to its members, a source of much more interest than they could now suppose. As opportunities will now be numerous of purchasing rabbits from the best London breeders, I will give you the following names. Dr. Handy, just over Waterloo bridge; Mr. Payne, 142 White Chapel; Mr. Bailey, of the Star Coffee-house, Union street, out of Bishop's gate; Mr. Webster, Pleasant Place, Stamford street, Blackfriars road, over Waterloo bridge. From these breeders, other addresses can be obtained and stocks examined. Very truly yours, R. *Morris,* (formerly Butternuts,) *Otsego county, N. Y., March,* 1851.

Plan of a Barn.

EDITORS CULTIVATOR—Accompanying this explanation, I send you a draft of a dairy-barn. Though not precisely after the fashion of any barn with which I am acquainted, it is on the same general plan of the celebrated Dairy-barn built by the Society of Shakers, at New-Lebanon, so much reduced in size and cost, however, as to bring it within the means of almost any thriving dairyman.

One side of this barn, it will be seen, has three floors, and the other two; the lower, which should be of stone when it can be obtained, is devoted to stables for 24 cows, allowing a space four feet wide for each, with a separate manger for hay, and trough for slop or roots, before each. The following figures serve as a key to the whole building, and its appurtenances. Whole size, 30 by 52.



End View.

1. A cellar 8 by 15 feet, for roots.

2. A hall, 8 feet wide, from which the cows are fed, &c.

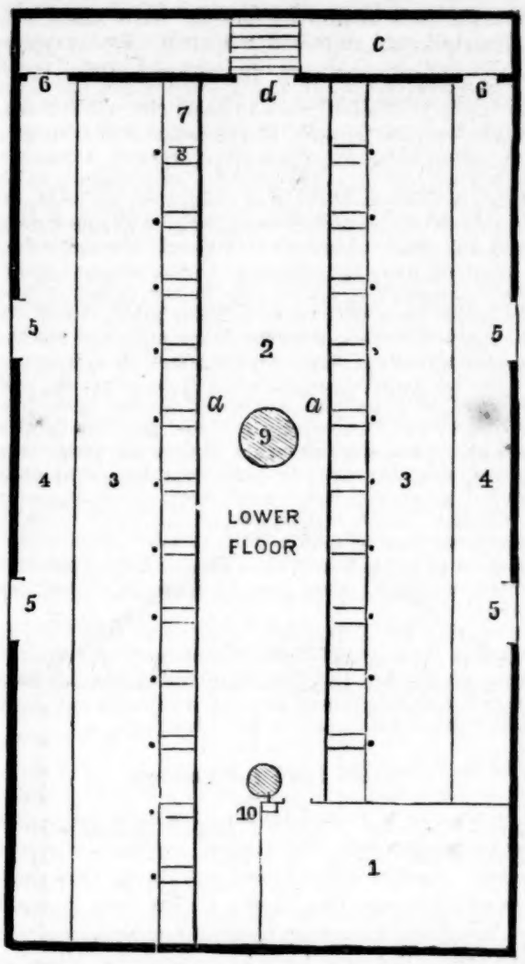
3.3. Stables—Platforms on which the cows stand, 5 feet wide, slanting half an inch to the foot, from the manger.

4.4. Floors, settled 4 inches below that upon which the cattle stand, into which all the excrement, either solid or fluid, is deposited, giving the animal a perfectly dry bed. This arrangement is indispensable to any good stable, either for cattle or horses.

5.5.5.5. Doors, 5 feet wide. These may be arranged wherever the shape of the yard, or character of the land, renders it most convenient.

6.6. Doors, intended to open into a shed over a vault made water-tight, for the reception of all the manure and litter. A wheel-barrow is used for carrying it to this end of the barn, where it is protected from the leaching of heavy rains, and the liquid portion is retained in the vault, where it should be mixed with coal-dust, saw-dust, plaster, muck, or some other substance capable of *fixing* the volatile gases, and rendering it more pleasant to draw on to land. Too much care cannot be taken of the manure made on a dairy farm.

c. Vault for manure, 5 feet wide and 3 feet deep, across which a bridge conducts to the hall.



7. Manger for hay or cut feed, 2 feet wide by 20 inches high.

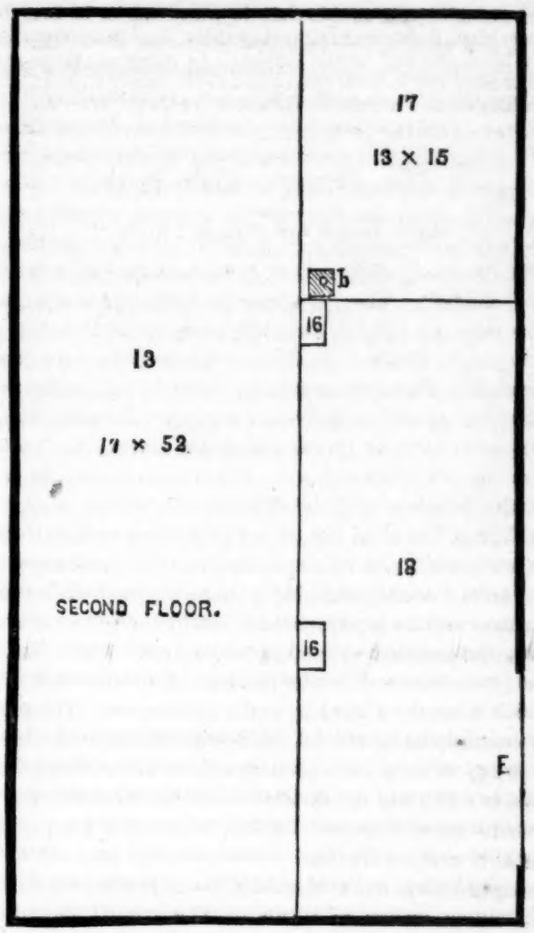
8. Trough across the manger, one foot wide. In the Shaker barn, these troughs all draw out upon a brace or support, (as seen at g. in the end view,) into the hall, and after receiving the mess are shoved back to the cow. This is a great convenience.

9. A large tub for storing whey, or any other slops intended for the cows. When the dairy-house is near enough, and elevated somewhat above it, the whey may be conducted directly from the cheese-vat, through pipes into this tub. Many dairies have a similar arrangement.

10. Pump or penstock, standing in the corner of the cellar, by which it is kept from freezing. Those who wish to incur the extra expense, may conduct water by pipes from this pump to every cow's trough, into which it may be discharged as the animal needs it, through a stop-cock.

11. A chain with two branches, to confine the cow by passing it round her neck, and fastening it by slipping the T through the ring in the other end. The chain is attached to a smooth round post, (12) about 2½ inches in diameter, by a ring which slips up or down, as the cow may wish to stand up or lie down. This is believed to be preferable to stancheons, as it permits the cow, when lying down, to rest upon her side, in a natural position, and allows her to lick her sides if she wishes to.

12. The small round post to which the chain is fastened. It should stand a little outside of the manger, to allow the ring a chance to slip down and up.



13. The bay for hay, 52 by 17, capable of storing from 30 to 40 tons of hay.

14. The floor immediately over the stable, 7 feet between joints.

15. The third floor, upon which the load of hay is driven to be unloaded. This arrangement saves a great amount of pitching *up*, which is the hardest part of haying; but as the floor is 13 feet above the ground, it requires a tolerably long bridge to rise on to it; yet the extra expense is much more than saved in pitching off, and furnishing more room for hay. The carriage is driven out at the other end of the barn, down a bridge that may be much steeper. This floor is well adapted to threshing, when grain is raised on the farm, as is almost always the case.

When the building site is somewhat slanting, this high floor is very easily reached by driving in from the uphill end. This inclined situation is to be preferred where it can be obtained, as it furnishes a fine place for a warm cellar, by a little excavation.

16. Hatchways, through which hay is thrown into the hall to be distributed to the cows.

17. A room 13 by 15, or larger, for granary, storing shorts, provender, &c. When grain is threshed above, it is let down into bins and saves much labor in storing it.

b. A spout leading to the cistern, (9,) through which provender, &c., is led down to it.

18. This room answers many useful purposes, such as husking corn, storing green stalks, storing wagons in winter, and sleighs in summer, shutting up calves, &c. &c. A door opens into it from the side, at *e*. This room

is so much space saved, that in most barns is *over* the threshing floor, and almost useless. *a*. Narrow passages from the hall to the stable. As many of them may be made, and in such situations as the convenience of the builder may require. GURDON EVANS. *De Ruyter, March* 5, 1851.

The Farmer's Note-Book.

Best Grass for "Low Lands."

We are frequently asked, "What is the best grass for low lands?" The question, probably, has reference generally, to moist "swales," or to reclaimed bog or peaty soil, which it is desired to keep in permanent meadow. For such situations, we know of no grass that we think equal to a species of the *Agrostis* genus, indigenous to some of the New-England states, and known there as "Fowl Meadow." It has several peculiar properties which render it valuable. It makes a better quality of hay than any other grass that would thrive on such soils, and at the same time will yield more to the acre. A distinguishing trait belonging to it is, that its stems will keep green and retain their juices, even after the seed has ripened and fallen off. The stalks or stems are long and slender, and make a soft, sweet hay, which is much relished by cattle and horses. The roots are regarded as perennial, though it is deemed advisable, in order to keep up a good sward, to allow part of the seed to ripen and fall of itself, once in four or five years. New plants will thus be formed which will supply the place of such as die out.

A good time for sowing this grass, is the latter part of summer or first of autumn. The ground should be prepared by the aquatic and inferior plants being eradicated as thoroughly as possible, and the surface smoothed, when half a bushel of good seed may be sown to the acre, and a bush-drag drawn over to cover it slightly. The seed may generally be had at Boston, and is, we presume, kept by the principal seed dealers there.

An interesting description of the "Fowl Meadow" grass, was written by Rev. Dr. JARED ELIOT, of Killingworth, Conn., and published in a work of which he was the author, entitled *Essays on Field Husbandry, wrote from a Journal of thirty years Experience*, printed in 1747. The following is from that work:

There are two sorts of grass which are natives of the country, which I would recommend; these are Herd Grass, (known in Pennsylvania by the name of Timothy Grass;) the other is Fowl Meadow, sometimes called Duck grass, and sometimes Swamp-wire grass. It is said that herd grass was first found in a swamp in Piscataqua, by one Herd, who propagated the same; that fowl meadow grass was brought into a poor piece of meadow in Dedham [Mass.,] by ducks and other water fowl, and therefore called by such an odd name.

It is supposed to be brought into the meadows at Hartford [Conn..] by the annual floods, and called there Swamp-wire grass. Of these two sorts of natural grass, the fowl grass is much the best; it grows tall and thick, makes a more soft and pliable hay than herd grass, and consequently will be more fit for pressing, in order to ship off with our horses; besides it is a good grass, not abundantly inferior to English grass; it yields a good burthen, three loads to the acre. It must be sowed in low moist land, our drained [bog] land when it is of sufficient age, [or has been drained a sufficient length of time,] is very agreeable to this sort of grass. As the seed is very fine, there is danger of sowing it too thick, as some have done, so as to come up thick, like hair; this is a loss of seed and prejudicial to the grass. When you bring to a swamp by flowing, have killed your brush and ditched your land and got it a little dry, you may sow your seed among the trees and brush; it will come up, establish itself, and prevent other bad grass from taking possession; then you may clear off the wood and brush at your leisure; and then you will have good grass to mow as fast as you can clear the land. I have seen it grow knee high where the dead brush were very thick.

This grass has another good quality, which renders it very valuable in a country where help is so much wanting; it will not spoil or suffer, although it stand beyond the common times for mowing. Clover will be lost in a great measure, if it be not cut in the proper season. Spire grass, commonly called English grass, if it stands too long, will be little better than rye straw: if this outstand the time, it is best to let it stand till there comes up a second growth, and then it will do tolerably well; but this fowl grass may be mowed at any time, from July to October. One of my sons told me, that at New-Fairfield, he saw some stacks of it that the people told him was cut in October; he pulled out some of the hay, it looked green and had a good smell. This is a great convenience in time of sickness, or any other casualty, whereby we may be hindered from mowing in season. This good property renders it a fit sort of grass for a new country, where we often have business crowd too hard upon us.

In reading Mr. Ellis, I find by him that they have got herd-grass [in England] from this country, and set a value upon it; if they like that, they would like this much better; for although herd-grass be a valuable sort, fowl-meadow grass hath quite eclipsed its glory.

Indian Corn for Fodder.

The practice of raising Indian Corn to be fed to stock in an immature state, either green or dried, is not uncommon. It affords more forage, probably, than can be obtained from any other crop. It has been generally sown broadcast, harrowing in about two bushels of seed to the acre. But experience has proved that it is a better way to put the crop in drills, on account of the advantage it gives for destroying weeds. In broadcast sowing, the weeds often get the start of the corn, and prevent its growth, more or less.

In drill planting, the seed may be put in with a machine, drawn by a horse, by which the work is executed with dispatch. The rows may be from two to two and a-half feet apart, and it is best to use seed enough to have the stalks thick and fine, as such are eaten better by stock than larger ones. The crop may be kept clean by the cultivator, which should be passed through the rows as soon as the corn is fairly above ground.

The value of the crop depends somewhat on the variety of corn chosen. It is sometimes recommended to take the large southern corn, for this purpose. It may give as large, perhaps a larger crop, but stock do not like it as well. The best variety is the common large sweet corn. It makes a good growth, tillers, or suckers much, and the fodder has a peculiar sweetness which induces cattle to eat it with more avidity than they will eat that of any other kind of corn. A farmer in this vicinity who planted considerable corn last year, for feeding out while green, had three kinds of seed; southern, yellow or Dutton, and sweet corn. He began cutting the sweet, using it to feed stock which was being exhibited at the State Fair. They ate every bit of it with a good relish; but when the sweet corn was gone, and the usual quantity was cut and fed from the the Dutton and southern, the cattle discovered the difference at once. They smelt it over, tossed it about with

their noses, and finally would not eat it without wasting more or less. The same thing has been noticed with hogs, when the corn crop has been cut up and fed to them while the ear was soft. They would eat the sweet corn, stalk and all; but would leave much of the other, though both were in the same state of ripeness.

The Indian corn plant, in its green state, contains so much sap that it is with difficulty dried so that it will keep well—it is very liable to become sour and mouldy, in the barn or stack. On this account many do not attempt to keep it till winter. Its use, however, as green forage, is every year increasing. Dairymen find a great advantage in feeding it the latter part of summer and in autumn, when grass is generally short, and often very scarce, from the effect of drouth. For this purpose it is sown at intervals in June, and as late as July, on good ground, and the crop gets forward so that it may be cut in August; and as the lots from the different plantings come in successively, they may afford a regular supply till hard frosts come. It is fed in mangers in yards or sheds, or carried to grass fields—cutting it in such quantities as are needed from day to day. It may be cut, if required, when it is not more than a foot high, as in such cases it will start again and afford a second cutting; but it is deemed best when the stalk is fully grown and the grain is beginning to form. If the crop is to be dried for winter use, it is best to let it stand till the top or "spindle" begins to die, as it will then contain less water, and can be cured with less labor. A good mode of curing, is to cut it in fair weather, let it lie (as thin as possible) and wilt one day; then bind it in small bundles, putting the band as near the top as practicable, and gather the bundles into small shocks, open at the bottom, and let them stand till sufficiently dried to be put in the barn or stack.

Cultivation of Potatoes.

Eds. Cultivator—The season for planting the potato is approaching, and as that valuable root has of late years been much subject to disease, if there be anything in the season of planting, in kind of soil, seed, or culture that would be likely to remedy, wholly or in part, the ravages of this blight, it must be a matter of interest and importance to every farmer to be aware of it.

I will not attempt to offer anything new on the subject, for I do not pretend to be in possession of anything not already suggested, and perhaps practiced by many. I will only give my experience in potato raising for the last three seasons.

In 1848, I chose for my potato plat a loose soil (slate) with a clay subsoil. On the half acre, I had spread about four wagon loads of compost, made of leaves gathered from the woods and mixed with barn-yard manure. This was done before plowing. The ground was in Indian corn the year before. On the 29th of April I planted. The crop was cultivated in the usual way, and was dug on the 21st of September. The yield was good—the potatoes being of a fine size and excellent quality. Not more than eight or ten diseased ones were found at the time of digging, nor did they rot after being stored away.

In 1849, a piece of ground was selected for the potato lot, about the same in kind and condition as the above described, having been also in corn the season preceding. This was spread with barn-yard manure alone, and on the 13th of April was planted. The crop was dug the 1st of September, and was quite a failure, caused by a long drouth, but was entirely free from blight.

Last season I had for potatoes a rich sandy soil which was, likewise, in corn the summer before. It was planted without manure, on the 9th of April. This crop seemed so much checked by the drouth in the early part of the season, as not to be much benefitted by the abundant rains and remarkable growing weather that continued throughout the rest of the summer. The yield from this plat was small; but was free from blight and the tubers have kept over winter without being the least effected. The potatoes in this last instance were not raised until about one month after the tops were dead.

Early planting has been frequently recommended as a preventive of the blight. It will be noticed of the instances given above, that the time of planting was earlier than farmers usually plant; which with several other cases of the kind that I have noticed in the neighborhood, has induced me to believe that early planting may have its advantages and deserves the attention of farmers.

The mode I have practiced for some years, of covering the seed potatoes after they are dropped in the drills, is much more expeditious than with the hoe or plow, not requiring one fourth the labor and doing the work better. As I do not intend to get this labor-saving contrivance patented, I give a description of it for the benefit of any who choose to practice it.

Take two pieces of scantling about eight feet long and four inches square. Invert your harrow, turning the points of the teeth upwards. Then take the scantling and lay one piece across the foremost part of the harrow, and the other one nearer the hind part, between the teeth, and in such a manner that when the harrow is righted and drawn across the drills, the scantling will be parallel with the drills, or pass over them sidewise. Now chain them fast to the beams of the harrow and you have all ready. Then by attaching your team, and driving across the rows, it will be found to cover the seed and level off the surface so that it will be difficult to discern the drills from the spaces between. One man and two horses with a fixture of this kind, could cover from eight to ten acres of potatoes in one day. J. H. Alexander. *Near Lewistown, Pa.*

Improved Stock in Nova Scotia.

The following is an extract from a letter lately received from James Irons, Esq., Secretary of the Central Board of Agriculture for Nova Scotia, who in 1850, as the agent of that association, purchased in this vicinity and in Massachusetts, some valuable cattle and swine, for the improvement of the stock of that Province. The letter is dated, "Horticultural Gardens, Halifax, Nova Scotia, Feb. 25, 1851."

I know it will be gratifying to you all to learn that the Aryshire and Hereford cattle, which I purchased from Messrs. Prentice and Corning, severally, have fortunately fallen into good hands, are thriving well, and promise to be of great service in improving our Provin-

cial stock. The Ayrshire bull "Dundee," is now the property of the Dartmouth Agricultural Society, by whom he is highly appreciated. The young Aryshire bull calf "Major," is the property of the Cornwallis Agricultural Society, also the Ayrshire cow "Jenny 2d," both doing well. The Ayrshire heifer "Jenny Deans," was purchased by John Brown, Esq., of Falmouth, whose care as a breeder renders him worthy of her promise. The Hereford heifer is owned by John Esson, Esq., of Halifax. She is kept on his farm at Dartmouth; she is much admired. The young Devon bull which I purchased from the editor of the "Massachusetts Plowman," is now the property of Messrs. Brown and Black, at Windsor; he is also doing well. The Hereford bull is owned by the Windsor Agricultural Society, who prize him highly. The Suffolk and Middlesex swine, which I purchased from the late Mr. Stickney of Massachusetts, are widely distributed over Nova Scotia, and cannot fail, in the hands of careful breeders, to improve our stock. The Central Board of Agriculture, at Halifax, in disposing of these animals, obtained bonds from the purchasers, warranting a careful preservation of the stock and their progeny within the Province, for a certain period; but it is to be hoped that the farmers' own interest will prove a sufficient guarantee in this instance.

The past season has proved more propitious to our agricultural interests than the preceding one. With the exception of potatoes, which were generally blighted, all other crops have proved a fair average. With best wishes, I beg to remain, sir, your ob'dt and obliged servt., JAMES IRONS, *Sec'y C. B. A., Halifax.*

Indian Corn.

EDS. CULTIVATOR—In the Cultivator of May last, "A. S. F.," of Granville, N. Y., has given us the method practiced by Mr. Clark of Castleton, Vt., in raising Indian corn. He says, "The manure being spread," &c. I wish to ask how much manure to the acre he considers necessary. Supposing a man has little or no manure, does he consider his compost sufficient of itself to raise a good crop of Indian corn, on tolerably good land. For if manure enough is "spread upon the furrows and thoroughly harrowed," we may expect a good crop without his compost. I have about three acres of land, from which I would like to take a good crop of corn this year, and have no manure but what I buy at a cost not less than seven dollars per cord, delivered on the land, which is two miles from the city. "Mr. C. says he knows from actual experience, that the compost for one acre will produce more corn than fifty loads of manure." A. S. F. says, "I shall try the experiment," I am desirous to know the result of his "experiment" before planting time.

Does A. S. F. hill up his corn, or does he not? I notice that "A Practical Farmer" on page 62 of the current volume, recommends to go through with "the cultivator three times both ways"—I suppose six times in all—"and never haul dirt to the corn."

Is this compost alone better than 50 loads of manure to the acre? and is the cultivator six times through the rows, and a clean pulling of weeds, the best mode of culture after planting? If so, I think it must be a great improvement on the old methods of raising corn. My land is rather high, and approaching to a gravelly loam. GEO. MANSFIELD. *Lowell, March* 3, 1851.

Injury by Muskrats.

EDS. CULTIVATOR—I hope some of your readers will give the information which another correspondent desires, in relation to the muskrat. This animal is a perfect pest in my grounds. He not only burrows in the banks of ditches, much to my annoyance, but he is very destructive to my corn. This last season, the muskrats ate off more than half an acre of my corn, after it had got to be two or three feet in height. My man checked their operations, partially, in the latter part of the season, by snaring them with a brass wire set in their paths, but this costs too much time and attention. Unless I can find some easier mode of destroying them, I shall be obliged to forego the cultivation of corn on a piece of 15 acres, peculiarly adapted to its growth.

I believe this animal subsists entirely upon vegetable food. Old trappers have sometimes baited them with a bit of parsnip, carrot or sweet apple, which they will sometimes nibble at and carry away. What we want to know is, whether they can be fed with any kind of *prepared* food. That ascertained, I have no doubt *strychnine* would do the rest. Yours, &c., V. W. S. *Syracuse, Feb.* 1851.

The Germantown *Telegraph* states, that these animals may be readily caught in a steel-trap, set in the water where they have their paths, in going to the land for food. It is said not to be necessary to bait the trap, but it must set where they would be likely to put their feet in it. The writer states that nine were caught in this way in the course of a few weeks. It is necessary to fasten the trap by a chain or piece of wire, to prevent its being carried off by the muskrat.

Strong Vitality of some Varieties of Weed-Seeds.

EDS. CULTIVATOR—The garden which I occupy had been neglected before it came under my care in the autumn of 1842. There was in it a small triangular plat, of less than two square rods, surrounded by gooseberries. This I found covered with the yellow dock. It has now been under cultivation for eight years, and has occasionally been deeply spaded. I think it fully within the limits of truth to say that I have destroyed upon it three crops of young plants each year; *and the end is not yet.* The fact obviously is, that each year of cultivation has thrown up seed that had previously lain too deep cast and removed from the air to germinate. All seeds have not this strong vitality. Corn and beans deeply planted will speedily rot, but potatoes and peas will grow from any depth at which they ever become buried by the deepest cultivation.

Let farmers beware how they neglect a crop of weeds under the impression that a little extra cultivation, the next year, will make up the difference. It may be so with some varieties, but with many it will not, as they will discover, to their expense and sorrow, in long subsequent years. Query: Who has experimented on this subject, and will give the public a table exhibiting the different vitality of weed-seeds. C. E. G. *Utica, Feb.* 7, 1851.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have been received since our last, from L. Durand, R., Amenia, E. D. A., Bridgewater, H. Neff, J. G. C. Jr., J. H. Alexander, Prof. J. P. Norton, J. C., W. L. Eaton, C. Reagles.

Books, Pamphlets,&c., have been received as follows: Report of Commissioners concerning an Agricultural School, to the Legislature of Massachusetts, from Hon. M. P. Wilder, chairman of the Board of Commissioners.——An Address delivered at the annual meeting of the Rensselaer Ag. Society, Feb. 4, by Hon. L. C. Ball, President of the Society.——Agricultural Geology, by Josiah Holbrook, from the author.——Geranium "Lucia Rosea," from Geo. C. Thorburn, Astoria.——An Essay on the General Management of a Farm in Canada, published with additions, by the New-Brunswick Ag. Society.——A pair of White Dorkings, from Levi Durand, Esq., Derby, Ct.——Seeds of the Cape Gooseberry, from E. B. Prentiss, Watervliet.

Agent to the World's Fair.—Gov. Hunt has appointed Benjamin P. Johnson, Esq., Secretary of the State Agricultural Society, Agent of the State to the World's Fair. Mr. J. sailed for London in the steamer Baltic on the 16th ult.

Winter Meeting of the New-York State Agricultural Society.—In connection with the next annual meeting of the society, it has been determined to hold, in this city, an exhibition of fat stock, specimens of grain, &c. A list has been prepared, comprising premiums for the best fat cattle and sheep, the best carcasses of beef, mutton, pork, poultry of all kinds, (dressed,) samples of grain of all kinds, peas, beans, and grass seeds. We belive that such an exhibition, under proper regulations and management, may be made highly useful to the farmer, the dealer, and the consumer. By bringing together large quantities of the best articles, dealers will find it an occasion for making their selections and purchases to advantage, and the comparisons which may be made, will be the means of imparting correct ideas in regard to the quality of meats, and the properties of different breeds of animals in this respect—a point on which information is much needed.

Death of John S. Skinner, Esq., and Hon. Isaac Hill.—These individuals, who have long occupied a prominent position before the public, have lately been taken from us by death. Mr. Skinner was the pioneer in the establishment of agricultural periodicals in this country, having commenced the *American Farmer* in 1819. He has been, for the most part, connected with the agricultural press, from that down to the present time. At the time of his death, he was conducting the *Plow, Loom* and *Anvil*. His energy, zeal and devotion to the improvement of the industrial interests of the country, are well known, and for the important services he has rendered, his memory will long be cherished with lively gratitude. His death was sudden and entirely unexpected. It occurred on the 21st of March at Baltimore.

It appears that in attempting to leave the post-office in that city, where he had been called on business, he, by mistake, opened a door leading to the cellar, into which he was precipitated, breaking his skull as he fell to the ground. He was taken up speechless, and died in a few hours afterwards.

Mr. Hill died at Washington, from an asthmatic affection with which he had been afflicted many years. He had filled many important political stations, the chief of which were those of United States Senator, and Governor of the State of New-Hampshire. Of late years, he had manifested great interest in agriculture, and had published several volumes of a paper called *The Farmers' Visitor*. He also carried on farming to considerable extent, and was quite successful in the management of a tract of land, near Concord, N. H., which previously to its coming into his possession, was regarded as of very inferior quality. His example in this respect is believed to have been highly salutary and useful in promoting agricultural improvement in the section where he lived.

Apples from Kentucky.—Lewis Sanders, Esq., of Grass-Hills, Ky., has sent us some specimens of a variety of apple produced in his orchard and cultivated to considerable extent in his neighborhood. All the specimens excepting one were so much bruised and injured that their quality could not be fairly judged of. Mr. S. describes it as "a small red apple, highly aromatic, juicy and crisp, very light and pleasant to the stomach. In eating from October to April. I think it is the best apple for the dessert that I have met with." Mr. S. is desirous of ascertaining its name. It is very popular in that part of Kentucky, but he has not met with it elsewhere. Although we have only seen it under unfavorable circumstances, we should say it is worthy of being more extensively known and propagated.

Fowls from Connecticut.—We have received from Mr. Levi Durand, of Derby, Ct., a pair of his white Dorking fowls. They are of good shape and medium size. Mr. D. says, in regard to this stock, "According to poultry fanciers and breeders, they must have five toes on a foot, to be genuine. Some of mine have only the ordinary number of toes, and yet are perfectly uniform in other respects. The cocks have both single and double combs, and the legs and bills of the true Dorking are invariably of a silvery white."

Effects of Railroads on Agricultural Products.—The effects of railroads in modifying the agriculture of different sections, is illustrated by the example of Massachusetts. Since 1840, about 800 miles of railroads have been laid in that state. According to the returns of the assessors, it appears that the number of horses in the state, has increased from 60,030 in 1840, to 74,060 in 1850. This is remarkable, especially when we consider the fact that the railroads have displaced many lines of stages on which numerous horses were employed; and it shows also that the increase of business occasioned by the railroads, gives employment to an increased number of horses. From the same returns we learn that cattle have increased from 278,737 in 1840, to 299,600 in 1850, while in the same period, sheep have declined from

343,390 to 179,537. The produce of wheat has declined from 101,178 bushels to 28,487, while Indian corn has increased from 1,775,073 bushels in 1840, to 2,295,856 bushels in 1850.

FINE FAT CATTLE.—J. M. SHERWOOD, of Auburn, sent to New-York in March last, several very fine fat cattle, among which we particularly noticed a full blood Short-horn cow, *Grace*, and a pair of grade Short-horn oxen, five years old. The cow was ten years old, and had produced several calves. She was remarkable for smallness of bone, as well as for general symmetry, and was of uncommon fatness. Her live weight was 1,850 lbs.—dead weight—quarters, 1,210—hide, 101—tallow, 153—total, 1,464 lbs. She proved to be heavy with calf, which undoubtedly detracted from her weight. The foetus with its appendages weighed 60 lbs. The live weights of the oxen were, 2,300, and 2,110 lbs. We have only received the weights of their quarters, which were, 1,588, and 1,360 lbs.

IMPORTED FRENCH MERINO SHEEP.—Mr. JOHN D. PATTERSON, of Westfield, Chautauque county, N. Y., has lately obtained of Mr. J. A. TAINTOR, of Hartford, Ct., two rams and six ewes, imported from France. Three of them arrived in February last, and the others in the autumn of 1850. Like most others of this stock which have been brought to this country, they are of very large size for Merinos, and appear calculated to produce a great weight of wool. We notice that some of Mr. P.'s sheep have a finer staple of wool than we have generally found in this stock, and one or two of the ewes are almost faultless in shape, and the quality of their wool is quite even and uniform over the body.

AN AGRICULTURAL CONVENTION composed of delegates from the various county agricultural societies in Massachusetts, was held at the State-House in Boston on the 20th of March last, for the purpose of taking measures in regard to the improvement of agriculture. Hon. M. P. WILDER was chosen president, and addressed the convention in relation to the object for which it had been called. Several other addresses were made, and a series of resolutions reported and adopted, one of which recommended the establishment of a Central Board of Agriculture to be composed of delegates from the various agricultural societies of the commonwealth—the Board to meet semiannually or oftener, and to recommend to the societies measures for action; and to consider all subjects pertaining to the interests of apriculture. Another resolution related to the establishment of Agricultural Schools in the State,in which it wa sheld to be the duty of the government to aid; and the last resolution suggested to the legislature the propriety of reserving the proceeds of the sales of the public lands belonging to the State—"from and after the period when the Common School Fund shall have reached the maximum fixed by the act of 1834—for purposes of education and charity, with a view to extending that aid and encouragement to a system of agricultural education."

IMPORTED HORSE CONSTERNATION.—It will be seen by Mr. BURNET's advertisement, that the services of this fine horse are obtainable on very moderate terms.

FLAVOR OF BUTTER.—The market of Philadelphia has long been noted for the quality of its butter. Its peculiar flavor has been a subject of some speculation. G. EMERSON, Esq., attributes it to the Sweet-scented Vernal grass, (*Anthoxanthum odoratum*,) which is said to abound in the pastures near that city. We know of no good reason for this hypothesis, and would interpose a caution against a too extensive use of seed of this grass. It is not liked by cattle, as may be known by noticing that it is often rejected in pastures, when many other kinds, (especially the different species of *Poa*, spire or blue grass,) are eaten to the ground. It is inclined to grow on cold, wet land, and is not a nutritive grass, according to analysis. Its odor is agreeable in hay, though it does not appear to be highly relished by stock in any state.

IMPROVEMENT IN DRILL-MACHINES.—An improvement in drill-machines has been made in England, by which a sufficient quantity of water may be deposited with the seed to insure its germination, even in the driest time. In many instances this may be of much importance. It often happens that sowing must be deferred, after all preparations are completed, or else the seed must be put in the ground with more or less risk of its failure. Sometimes there is barely moisture enough to swell the seed, without fully developing the root and blade, and if it shrinks under these circumstances, it will seldom start again. By wetting the soil, as is said to be done by this drill, so as to bring up the plants quickly, all this risk may be avoided, the crop may be sown without any delay, and may frequently be forwarded considerably from what it could have been if sowing had been delayed till the earth was moistened by rain. For root-crops especially, this will be of much advantage. The same machine also drops ashes, plaster, bone-dust, guano and other fine manure, in the drill with the seed.

SANATARY EFFECTS OF DRAINAGE.—President HITCHCOCK, of Amherst College, in his late report on the Agricultural Schools of Europe, mentions a very striking case of the benefits of drainage on the health ann longevity of the inhabitants of the district. It was a part of a large tract of country in France, over which there was a "scattered and miserable population, the mean length of whose lives did not exceed twenty-five years." The unhealthiness was caused by the periodical inundation of numerous marshes, "which brought pestilence with the overflow." M. Nevicre, says President H., "purchased 1600 acres, and in two years succeeded in draining all the ponds, and introducing successful cultivation with the most marked benefit as to health. Before the drainage was finished, the percentage of his domestics, sick with fevers, was as high as twenty from June 15 to October 15. After the drainage the proportion fell successively to six, five, three, and finally to one-half per cent."

"IMPROVED TURBINE WATER WHEEL."—A correspondent in Pennsylvania writes to know, from some one who has this wheel in use, whether it performs all that is claimed for it in the advertisement. (See current vol., page 125.) The particular point on which information is wanted, is stated as follows: "It is said that a seven foot wheel with 28 feet head of water, using 400

inches, will grind 182 bushel of wheat in an hour. How many burrt are required to do this?"

Show of the Royal Society.—We stated in a late number, that the show of this society for the present year, would be held in Hyde Park, during the World's Fair. This was according to the first announcement, but it has since been resolved, on account of the great crowd which will be gathered on that occasion, and the consequent want of room,—to hold the cattle-show, &c., at *Bushy Park*. It will take place on Tuesday, Wednesday, and Thursday, the 15th, 16th and 17th of July. It is expected the display will be equal or superior to any thing of the kind ever made in Great Britain, and it will, doubtless, form one of the most attractive and interesting objects to many of our countrymen who will be in London at that time. The Highland Agricultural Society will hold no meeting this year, on account of the great exhibition; but it is expected that numerous specimens of the best breeds of Scottish live-stock, agricultural products, implements, &c., will be exhibited—thus affording a rare opportunity of making useful comparisons. A trial of implements will take place on the farm of Mr. Pusey.

Suffolk Pigs.—The *New-England Farmer* states J. L. Lovering, of Hartford, Vt., brought to Boston in February last, twelve pigs of the Suffolk breed. Two of them were from twelve to fourteen months old, and weighed over 400 lbs. each. The other ten were from six to ten months old; and some of the latter age weighed 300 lbs. The aggregate weight of the twelve, was 3,470 lbs., or 289 lbs. each. These pigs, it is said, were fattened largely on apples, being fed, also, with small potatoes and some corn meal. This breed of swine was introduced into the country by the late Wm. Stickney, of Boston. It is much esteemed, and the pork of Suffolk pigs sells at a higher price in Boston market than any other.

Yields of Carrots.—We notice that the first and second prizes on carrots given by the Clinton county (N. Y.) Agricultural Society, were for crops yielding as follows: 1,249, and 1,176 bushels per acre—52 lbs. being taken as a bushel.

Large Crop of Corn in Vermont.—We are informed that Mr. Jonathan Hodgeman, Hartland, Vt., raised last year, on one acre of land, 144½ bushels of corn, weighing 59½ pounds to the bushel. The soil was alluvial, lying on the Connecticut river. The evidence in regard to the crop, was such as to satisfy a committee of the Windsor county Agricultural Society, who awarded a premium for the same.

Delaware County (N. Y.) Ag. Society.—This society has offered a very liberal list of premiums for the present year. Their show is to be held in Delhi on the 8th and 9th of October next. We notice the offer of several volumes of The Cultivator among the premiums.

Palmer & Co.'s Artificial Leg.—We would call attention to an advertisement of this article in this number. We have seen the "artificial leg," at some of our State Fairs, and in common with many others, were much pleased with its beauty and perfection.

ANSWERS TO INQUIRIES.

Kephart's Fruit and Vegetable Preserver.—"Has this article been found by experience to answer in every respect the purpose for which it was intended?" H. N., Pa. We have had no personal experience on this subject, but have frequently heard it spoken of as a "good thing." We should like to hear more particularly from those who have used it.

Steeps for Seeds.—"Will you give us your opinion of steeps for seeds. Are they advisable, and will they *pay?*" J. G. C., Jr., Kingston, R. I. The subject of steeping seeds has received less attention lately, than was given to it several years ago. The inference from this is, that steeping has been found less advantageous than was anticipated. In 1844 and '45, many trials were made with various steeps, the results of several of which were reported to us, and will be found in our volumes for those years and for 1846. Muriate and sulphate of ammonia are the substances which have been most highly recommended, and in many instances they seem to have been useful, although considerable uncertainty evidently attends their operation, as we have frequent reports of their having produced no sensible effect on the yield of the crop. It is not advisable to plant seeds which have been soaked in any liquid in very dry ground, as in such cases the moisture is attracted from the seed, and if it has been much swelled the germ will perish.

Culture of the Locust.—A. B. G., Springfield, Pa. Your inquiry was, in effect, answered last month. (See page 139.)

Carter Potatoes.—W. H., Moriah, N. Y. The Carter is a potato of excellent quality for the table, and it has usually sold at a higher price in market than most other kinds; but as an offset to this, it is very liable to be injured by the *rot*—so much so, that its cultivation has been almost discontinued in this vicinity.

Quantity of Flax-seed for an Acre.—O. P. Q., Ohio. The quantity of seed proper for an acre may vary according to the object. If the crop is destined for seed, it is probable less than a bushel might give as large a yield as more; but if lint or fibre is the object, more seed would be required. We notice in the report of a discussion at a late meeting of the Council of the Royal Ag. Society, Mr. Marshall, M. P., said—"With regard to thick and thin sowing, that question had reference to the object of the cultivator, namely, whether a fine fibre and little seed were required, or a coarser fibre with a full crop of seed. On the banks of the Lys, in Belgium, where the finest flax had been grown for centuries, and used for making the finest lace, they practiced thick sowing, 3½ bushels per acre, and obtained about 14 bushels of seed per acre; but the stems were long and straight, without branches, and the longest fibre was obtained. In Ireland and Russia thin sowing was practiced, from 2 to 2½ bushels per acre, and from 16 to 20 bushels of seed were obtained; but the stems of flax branched out more, and an inferior fibre was the result.

Preparing Sweet Corn for use in Winter.—J. C., Tariffville, Ct. We believe the common mode of preparing this article, is to scald the corn by pouring hot water on the ears, and afterwards cutting off the corn and drying it in the sun. We have known it prepared

in another way. When the corn is in proper state for boiling, the outer husks are stripped from the ear, leaving on the inside layer. The ears are packed in strong brine in a tight barrel. When wanted, the husk is taken off, the corn cut off and soaked in fresh water for twenty-four to thirty-six hours, or until the salt is entirely extracted. It is then boiled in the same manner as ordinary corn.

Hussey's Reaping Machine.

EDITORS OF THE CULTIVATOR.—As the inventor of what is known as Hussey's Mowing and Reaping Machine, I am not willing to be held responsible for the operation of such machines as are not built by myself, at my manufactory in Baltimore. If those persons in other parts of the country, who are building by permission, and those who are infringing on my rights, do not keep up with my improvements, it is unjust that their machines should be allowed to give a character to my own. You will therefore please admit into your advertising columns the experience of those who have used my Baltimore made machines, and oblige yours, OBED HUSSEY. *Baltimore, Md., March* 10, 1851.

Wool Market, April 12, 1851.

The stock of wool, both fleece and pulled, is light. Very little can be said about prices, as they depend much upon the necessities of the purchaser. It may be observed, however, that though the stock on hand is small, prices have somewhat receded; the manufacturers of some styles of goods, preferring to work short time, or stop altogether, (after working up their stocks on hand,) rather than pay the high prices of January and February last. Some of them finding that they could realize a greater profit by selling their wool than by working it, have adopted that course. Wool of the ensuing clip is being contracted for in some of the Western States, particularly in Ohio, at highes rates than the prices in the eastern markets, even now, will warrant.

We quote full blood Saxon,	.....	50 to 55
" " Merino,	.....	46 to 48
¾ " Merino,	.....	42 to 44
Native to ½ Merino,	.....	37½ to 41

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.
May 1—1t. G. H. BARR.

Palmer's Patent Leg.

Manufactured by Palmer & Co., Springfield, Mass
New-York State Agricultural Rooms, Sept., 1850.

Extract from the report of the Committee to whom was referred Palmer & Co.'s Artificial Leg:

PALMER & CO., Springfie'd, Mass. An Artificial Leg, which seems to be an admirable substitute for the real, being wonderfully adapted to perform the various functions of the natural limb. A Silver Medal. B. P. JOHNSON, Cor. Sec'y.

Kinderhook Wool Depot.

THE subscribers will continue to receive and seel WOOL on Commission From long experience, an extensive acquaintance with manufacturers, close application, and increased facilities for transacting business, they hope to give satisfaction to those who may favor them with consignments.

All who desire it can have their clips kept separate.

Sales will be made invariably for CASH.

The charges for receiving, sorting and selling will be ONE AND A HALF CENTS PER POUND, and insurance, which will be at the rate of 25 cents on $100 worth of Wool for each term of three months or under.

It will be observed by our terms for selling, &c., that we we have returned to the price charged the first year this enterprize was established. The experience of the past two years has fully proved that the proprietors cannot be adequately compensated for their labor and expenses, at the rate recently charged; consequently they have advanced the commission for selling to the price above mentioned.

Kinderhook, April 1, 1851. H. BLANCHARD & CO.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fai s. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.
May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Mowing Machine Wanted.

THE subscriber wishes to procure a Mowing Machine, which can be driven with two moderately sized horses, without extra exertion—one that will mow closely, and which will conform itself to slight elevations in the ground.

Information directed to me, at Durham, Connecticut, will be thankfully received. DAVID LYMAN.
May 1—1t.

600 Barrels of Bone Charcoal or Burnt Bones, ground, at $2.00 per Barrel, for sale, by G. H. BARR,
No. 25 Cliff st., New-York.
May 1—1t.

Important to Wool Growers.

I PROPOSE to sell twenty-five pure Pauler Merino Ewes, with Lamb, by a French Merino Buck, purchased of A. L. Bingham of Vt.; also twenty-five yearling Ewes, from my Pauler Ewes and French Buck; also a few choice Bucks. My flock originated from *R. V. R. Horton's flock, Rutland county, Vt. I purchased eleven Ewes and one Buck in the winter of forty-five; I have also had Bucks of Avery of Saratoga, at different times. I will sell at prices within the reach of common Farmers.

Otisco, May 1—2t. N. H. NOYES.

P. S.—Any one wishing to get some good sheep could satisfy themselves by calling at shearing time. Any information wanted address N. H. Noyes, Otisco, Onondagn county.

* A description of Mr. H.'s sheep can be found in the vol. of the Cultivator published in forty-five and six.

New Subsoil Plow.

THE subscriber offers for sale an improved Subsoil Plow, made under the advisement of Professor J. J. Mapes, and free from the objections urged against those formerly in use. The wearing parts are so arranged that they may be easily and cheaply renewed; while the amount of force requisite to move them is less than half that required by those previously made.

Price for No. 1, plain,	.....	$7 00
" " with Draft Rod,	.....	8 50
" No. 2, " "	.....	11 00

To be had at the State Agricultural Warehouse, No. 25 Cliff street, New-York. May 1—1t. G. H. BARR.

Imported Consternation.

THIS Celebrated Thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, two miles west of Syracuse.

In order that farmers of the most limited means, may be enabled to breed from this valuable Horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00, payable in advance, in all cases—reserving the right to reject mares that are deemed unsuitable.

Mares provided with pasturage—well fenced, and well watered, at 37½ cents per week, but entirely at the risk of the owners.

Syracuse, May 1. 1851—3t. J. B. BURNET.

Anti-Pyric Paint, Fire, Weather, and Water Proof.

Manufactured by THE NEW-YORK ANTI-PYRIC PAINT COMPANY, for the roofs of Dwellings, Warehouses, Bridges, Fences, and all Articles that require Protection from Fire, Weather, or Water.

TO THE PUBLIC.—The Anti-Pyric Paint Company are prepared to fill orders for their incomparable Anti-Pyric Paint. They wish

it to be distinctly understood, that their Paint is distinctfrom any of the various *ground rocks, slates, clay or mud*, which are puffed and sold in the market as fire proof paint. The Paint offered by this Company is manufactured from proper materials only, scientifically prepared and combined and as such it is offered to the public, with the full assurance that in its protective properties against Fire and the Elements, it is superior to any article ever used in the form of Paint; and that, after all the earths and native Paints, (so called) have had their day and failed, the Anti-Pyric Paint alone will maintain its reputation as a perfect protection against the weather, falling sparks or cinders, and a not too immoderate heat from the direct action of Fire. It has no deleterious articles in it, will not crack, peel off, or wash away, but hardens by time and becomes permanent and imperishable by age! Thousands have used it for the last three years without a single failure.

Constantly on hand and for sale at the Depot of the Company, by GEO. G. SHEPPARD, their sole agent, 187 Water street, New-York, where may be had Certificates of its qualities, and full directions for using it. May 1—2t.

1000 MEN WANTED

TO CIRCULATE THE FOLLOWING

USEFUL BOOKS FOR FARMERS,

And all who are interested in Agriculture, Horticulture, &c.

C. M. SAXTON,

AGRICULTURAL BOOK PUBLISHER,

123 Fulton st., [up stairs,] New-York,

TAKES pleasure in announcing to the Farmers, Gardeners and Horticulturists of the United States, that he has added a large number of Books to his list of Publications, and is prepared to offer great inducements to Travelling Agents, and here let it be distinctly understood that, as we do business on the CASH PLAN, it will be necessary for persons who apply for an agency to have a capital of from $25 to $100, to start with,—and with such an assortment, adapted to the actual wants of the "People," no person with the right kind of energy can fail to make good wages. In fact it is a RARE CHANCE for Agents to MAKE MONEY. [Address post paid,]

C. M. SAXTON, Agricultural Book Publisher,
No. 123 Fulton street, [up stairs,] New-York.

American Farm Book; or, Compend of American Agriculture. Containing a concise and plainly written Exposition of Duties pertaining to the Cultivation of the Earth, the Management of the Farm, &c., &c., on practical scientific principles. By R. L. ALLEN. Price, in cloth, $1; mail ed., paper cover, 75 cents.

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American Poultry-Yard. Comprising the Origin, History, and Description of the different breeds of Domestic Poultry, with Directions for their Breeding, Crossing, Rearing, Fattening, &c. By D. J. BROWNE and SAMUEL ALLEN. Illustrated by numerous Engravings. Price, cloth, $1; mail ed., paper, 75 cts.

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Elements of Agricultural Chemistry and Geology. By James F. W. Johnston. Price, cloth, 50 cts.; paper, 40 cts.

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May 1—1t.

VALUABLE BOOK.

ERASTUS H. PEASE & CO. 82 State-Street, Albany, publish

Elements of Scientific Agriculture, or the connection between Science and the Art of Practical Farming. (Prize Essay of the New-York State Agricultural Society.) By JOHN P. NORTON, M. A., Prof. Scientific Agriculture in Yale College. 12mo. cloth, extra.

Brief extracts from a few of the many testimonials:

We agree with the Report of the Committee of the New-York State Agricultural Society, and our friends in the neighboring states, and commend this work to the attention of Farmers and Teachers in Canada.—*Toronto Globe, Jan.*, 1851.

☞ At a meeting of the Regents of the University, in October last, it was

On motion, resolved, that the study of Agricultural Chemistry, be deemed one of the higher branches of English Education, and that it be so recognized in the annual distribution of the amount granted to academies.

Resolved, That the committee on the establishment of Common School Departments in Academies, of which the Secretary of State is chairman, be instructed to inquire, whether this study should not be required of all students in said departments.

The Proceedings of the St. Johns Agricultural Society of the British Province of New-Brunswick, show that they have procured 1,000 copies, for distribution among the Agricultural Societies of that Province.

The subject is very ably discussed, and elucidated in clear and comprehensive language, such as would not discourage the young inquirer, nor dissatisfy the adept in such branches of scientific research. The task is well done, and we feel indebted to Prof. Norton for opening another pleasant avenue to agricultural knowledge and practice.—*Maine Farmer.*

This work is published under the immediate auspices of the New-York State Agricultural Society, and is a full, complete, and comprehensive exposition of the fundamental principles of practical and scientific agriculture. We trust it may find its way into every School District Library in the state—*District School Journal.*

Our high expectations have been fully met. Prof. Norton, has a common sense way of presenting the various topics connected with agricultural science, and it is to the *common sense* of every man that his conclusions commend themselves. Would that every farmer in Michigan were in possession of this book.—*Michigan Farmer.*

There is not a printed book in the Union which could have been more acceptable. We are but novices in the great art of agriculture, and any thing that will give us light, we hail with gratitude and pleasure. We shall, from time to time, give our readers extracts from the work.—*Columbus (Ga.) Enquirer.*

We doubt not the judgment of the New-York State Agricultural Society, who awarded to it its prize, will be fully confirmed by the community.—*The New-Englander.*

We should be happy to see it introduced into all the schools, and the family of every farmer in this country.—*Canadian Agriculturist.*

Its language is plain, its illustrations simple. It is a work for the farmer, and the farmer shou'd read it, and teach it to his children.—*Genesee Farmer.*

Orders from County Societies, Schools, and individuals, invited. Liberal terms offered, where considerable quantities are ordered.

May 1—1t. E. H. PEASE & CO., 82 State-st., Albany.

The Mambrino Horse Washington.

THIS Celebrated Horse will stand the present season at North Ferrisburgh, Addison County, Vt. Washington was bred by John Thorn of Washington, Dutchess County, N. Y.—is a beautiful dark bay, over 16 hands, well proportioned, having great action, and possessing a great share of bone and sinew. Washington was got by Mambrino Paymaster, and Mambrino Paymaster by Mambrino, and Mambrino Paymaster's Dam by the imported Horse Messenger. Washington's dam by Mount Holley, grand-dam by True Britton, Mount Holley by the imported Horse Messenger, and dam by Bagazette. It will be readily perceived that Washington combines the best blood ever imported to this continent, and is adjudged to possess more good points and symmetry of proportion, than any other horse of his age, having taken the First Premium at the Dutchess County Agricultural Fair, in the fall of 1847, and the First Premium at the Addison County Fair last fall, on a field of eleven stallions, most of which were the stock of the original Black Hawk. All who are desirous of raising high-priced horses, are requested to call and examine the Horse and his stock.

THOMAS R. NOONAN
ANDREW HOLMES,
Proprietors

May 1—2t*

EMERY & CO.'S
New-York State Agricultural Society's
FIRST PREMIUM
RAILROAD HORSE POWER,
AND
OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Rail Road Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and in competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as shown in Cultivator for last month, [April.] The advantages of the recently adopted improvement are numerous and plainly seen, one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust, and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommend and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats per day.

The price for Emery & Co.'s one Horse Power,..	$85 00	
do do Thresher and Separator,..	35 00	
do Bands, wrench, oiler and extra pieces,.	5 00	—$125 00
do Two Horse Power,.....	110 00	
do do Thresher and Separator,..	35 00	
do Bands, oiler, wrench, &c.....	5 00	—$150 00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.....		$75 00
do Saw Mill, complete for use,.....		$35 00
Price of Grant's Fan Mills, adapted for hand or Power, from		$22 to $28 00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, [or made and sold by any other manufacturer,] which we sell with a full guarantee of the right of using same, in any territory of the United States, for the following prices,

One Horse Power,.....	$75
Two Horse Power,.....	100

The Threshers not being patented are same as above quoted.

All the above are subject to the warranty of three months use and trial and if not satisfactory may be returned and full purchase money refunded.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

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PUBLISHERS, 200 Broadway, New-York.

Downing's Cheap Cottages and Farm Houses, adapted to the United States. Price $2.00.

THIS volume is Part I. of Downing's "COUNTRY HOUSES." published separately, at half the price of the entire work. It contains numerous designs for Cottages and Farm Houses, of moderate cost, varying from $400 to $4,000, and will be found especially adapted to the wants of the American people, who wish to build convenient, comfortable, and tasteful homes, at a very moderate expense. The volume contains all the latest improvements in building, and the use of materials, with plans for barns and stables, and much valuable practical information on the construction and arrangement of Cottages, both in the country, and the suburbs of towns.

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The whole work complete, called the "ARCHITECTURE OF COUNTRY HOUSES," with three hundred and twenty engravings, is sold at $4.00.

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"Mr. Downing has a great and deserved reputation, but he has never before produced so elaborate and splendid a volume as the Country Houses."—*Boston Post.*

May 1—1t.

Barry's Fruit Garden.

CHARLES SCRIBNER, (Late Baker & Scribner,) New-York, has just published the FRUIT GARDEN, a Treatise intended to illustrate and explain *The Physiology of Fruit Trees, The Theory and Practice of all operations connected with the* PROPAGATION, TRANSPLANTING, PRUNING AND TRAINING OF ORCHARD AND GARDEN TREES, AS STANDARDS, DWARFS, PYRAMIDS, ESPALIERS, &c.—*the Laying out and arranging different kinds of Orchards and Gardens, the Selection of Suitable varieties for different purposes and localities, Gathering and Preserving Fruits, Treatment of Disease, Destruction of Insects, Descriptions and Uses of Implements, &c.,* ILLUSTRATED WITH UPWARDS OF ONE HUNDRED AND FIFTY FIGURES, representing Different Parts of Trees, all Practical Operations, Forms of Trees, Designs for Plantations, and Implements, &c. By P. BARRY, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

CONTENTS.

PART I. Describes the different parts of Fruit Trees—Roots, Stems, Branches, Leaves, Blossoms and Fruit; explains their different Characters, Functions, and Practical Classifications. It treats, also, of soils and manures, of the best Modes of Propagation, and the General Principles and Practice of Pruning.

This part is a new feature in Treatises of this kind, and is intended to be the ground-work of all the operations of culture.

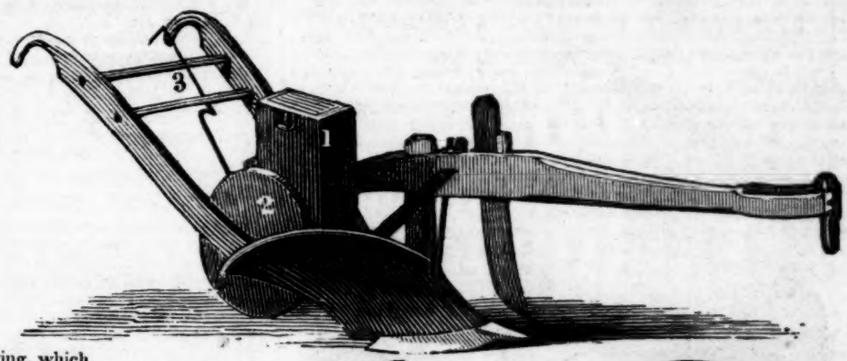
PART II. Treats of the Propagation and Management of Trees in the Nursery in detail, both Standards and Dwarfs, beginning with the Stocks, and ending with taking up the Trees. The various kinds of Stocks, their particular Uses, &c., are all correctly described.

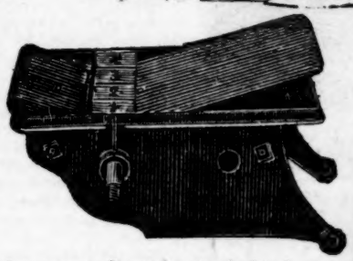
PART III. Treats of the Laying Out and Arrangement of different kinds of Orchards and Fruit Gardens, the selection of Trees and Varieties, Planting, Pruning and Training of Standards, Dwarfs, Pyramids, and various other forms, in a manner not attempted in any other American Treatise, and calculated to furnish important information much sought for at this time.

PART IV. Contains Abridged Descriptions of all the best Fruits of well established merit, with selections for various purposes and localities, and lists of new and promising varieties; also, a chapter on Diseases and Insects; another on Gathering and Preserving Fruits, and one on the most important implements used in Fruit Culture. The work is so arranged that any branch of the subject can be readily referred to, and contains upwards of one hundred and fifty figures, illustrating the different parts of Trees, different forms, Modes of Propagation, Pruning, Training, &c. CHARLES SCRIBNER,

May 1—1t. 36 Park Row and 145 Nassau-st.

Wm. Croasdale's Patent Seed Drill and Broadcast Sower.





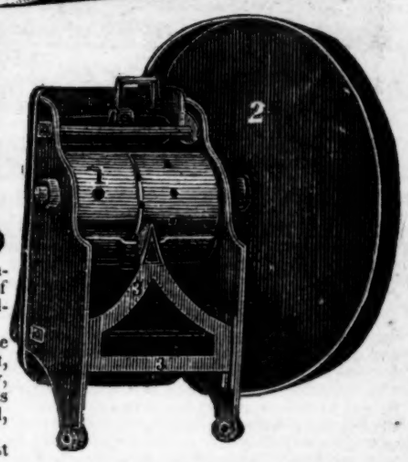


Figure A shows the Plow and Drill complete. No. 1 is the *Seed Chest*—No. 2 is the *Driving Wheel*—No. 3 is an *Iron Rod* to stop the planting by raising the wheel clear of the ground—the Rod being made to hook on the lower round of the plow for this purpose.

Figure B shows the Drill without the Seed Chest—the opening to let out the seed is closed by four small shutters moving on hinges—No. 1 is opened for *Turneps, &c.*—No. 2 for *Peas, &c.*—No. 3 for *Wheat, Rye, &c.* No. 4 *Corn.*

Figure C is the Drill turned up so as to show the under side whence the seed is let drop. No. 1 is the *Cylinder;* No. 2 the *Driving Wheel.* No. 3 is the *Spreader* for broadcast sowing, which may be taken out or moved back when you wish to plant in *drills.* A different spreader will be furnished when narrower drills are required.

THE manifold advantages of drilling-in wheat over the *usual* method of sowing *broadcast*, are now universally conceded by the informed practical farmer, and it has long been a desideratum to find a simple, convenient and effective apparatus for drilling, at a price which would place it within the reach of all. This drill is offered to the agricultural community with the confident belief that it will fully meet this want. Adapted in its construction, not only for drilling-in wheat, &c., but also for planting corn and other seeds, and so arranged as to be attached to the common furrowing plow, and to perform perfectly its work while the indispensable process of plowing is going on, without any additional labor, it must be apparent that it has great advantages over any other seeding machine yet invented.

It is affirmed by those who have used this Drill, that one and a half bushels of wheat to the acre put in with it, are fully equal to two bushels sown broad cast, in the usual way: first, because of the exact regularity with which the seed is deposited in the ground, and secondly, being all covered at uniform depth, the seed is protected from the birds, and from the effects of freezing and thawing weather of the winter; and thirdly, the seed being properly covered, every blade will have good root and the crop be better prepared to withstand drouth.

Thus any farmer who sows only twenty acres of wheat will save in seed alone, the first year, by the use of this Drill, its entire cost, besides having his crop put in better than it can possibly be done by hand, and with less labor.

Corn may be planted with these Drills in hills of one, two, or four feet apart at the first striking out, thus saving the cross furrowing, and also the labor of dropping. Drills can also be made to order, to plant corn in hills at *any* distance apart that may be required.

These Drills are now set to sow one and a half bushels of wheat, weighing 60 lb. to the bushel, to the acre, in furrows ten inches wide. It will also sow wheat broadcast, perfectly, by attaching the spreader directly under the *wheat* cavities. Full directions for *changing* the quantity per acre, with other information, may be found on the inside of the lid.

By actual experiment it has been found best not to plant deeper than three inches.

Manufactured and for Sale by JOHN G. BRENNER, 41 Market street, Philadelphia, and WM. H. CARR, No. 5 Commerce street, Philadelphia.

RECOMMENDATIONS.

Hartsville, July 22, 1850.

MR. WM. H. CARR.—Dear Sir: You ask my opinion of William Croasdale's Patent Seed Drill; last fall I used the first or second one that was made, to put in my wheat, and do not hesitate to say, that I consider it superior to any Drill that I have ever seen, combining more advantages. It works to perfection, is not liable to get out of order, being simple in construction, and being so well adapted to so many kinds of seeds, think it must to a very great extent take the place of all others.

The low price is also an important consideration, as it brings it within the means of every farmer, but I would prefer it to any that I have seen, costing five times as much, or more. Respectfully yours, GEORGE BROWN.

We the subscribers, having used William Croasdale's Patent Seed Drill, or seen it used, and seen the wheat planted with it in its various stages from the planting to its maturity, do unhesitatingly recommend it as the best and most economical, combining more advantages than any Drilling machine we have seen. Its adaptation to so many various kinds of seed, Wheat, Rye, Corn, Broom Corn, Turnip Seeds, &c. &c., the certainty of distributing the exact quantity required either in drills or scattered over the furrow, the saving in labor and seed, its fitness for any land where a plow can be used for plowing-in, and the low price of the article, (which will be saved in seed alone in the planting of 20 acres,) bringing it within the means of all, are important considerations, and certainly give it a decided advantage over the large Drills, or any that we have seen in use.

JOHN ENGART, Warminster township, July 24, 1850.
JAMES WALLACE, Warwick, July 24, 1850.
WM. H. LONG, Warminster township, July 24, 1850.
ROBERT B. FORTEN, Warminster township, July 24, 1850.
THOS. W. F FORTEN, Warminster township, July 24, 1850.
CHARLES BIRD, Hartsville, July 24. 1850.
JOSEPH CARR, JOSEPH CARR, Jr., JOHN DUNLAP, ANDREW CRAVEN, HIRAM A. CARR, THOMAS BIRD, SAMUEL CRAVEN, JOHN B. RAMSEY, JOSEPH HART, Warminster township, July 25, 1850.

Newtown, November 21, 1850.

I certify that I used Croasdale's Patent Seed Drill in putting in a portion of my wheat, in September last. The wheat drilled in was one bushel and a half per acre; the adjoining land was sown broadcast at the rate of two bushels an acre. The drilled wheat came up quite as thick and much more vigorous than that sown broad-cast, and I think is larger at the present time. I am perfectly satisfied with the operations of this drill. It scatters the seed most satisfactorily over the furrow, and saves the labor of harrowing the ground. From the appearance of the wheat, I now regret that I had not put my whole crop in with the Seed Drill. PHINEAS JENKS.

P. S.—This DRILL can also be adapted to the sowing of Guano. Price $12 50. Philadelphia, May 1—1t.

DAIRY SALT.

THE attention of Dairymen is particularly called to a very superior article of STEAM REFINED ROCK SALT, prepared expressly for the Dairy at the City Steam Mills, Albany.

The salt now offered is a pure article, free from specks, white as snow and sparkling as crystal. There is no excuse for a deficiency of cleanliness, and the difference in the price of a pure, clean article, is of little consequence, and scarcely felt. Butter known to be made with this salt, commands a better price and will sell much more readily in this market. For sale by the bushel, or in bags of one peck each, by C. N. BEMENT,
March 1—3t. 11 Hudson street, Albany

The American Live Stock Insurance Company,

At Vincennes, Indiana

CHARTER unlimited. Granted January 2. 1850. ☞Capital $50.000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire. Water. Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country. FRANCIS W. COWLES.
Farmington, Conn. Nov. 23, 1850. Dec. 1—6t.

DEVON BULL.

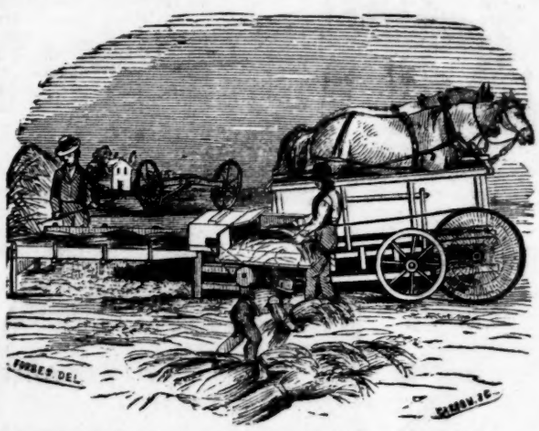
FOR sale, a full bred Devon Bull, 3 years old in July last, bred by H. N. Washbon, Otseo county, from the celebrated stock of Mr Patterson, Baltimore. A choice animal, and a good stock getter. Price $100. J. W. COLLINS.
Smyrna, Chenango Co., N. Y. April 1.—2t

New-York State Agricultural Works.

AGRICULTURAL MACHINES & IMPLEMENTS.

Wheeler, Melick & Co.

CONTINUE their manufactory at the corner of HAMILTON and LIBERTY STREETS, ALBANY, where they are prepared to fill all orders with despatch. Orders for



Wheeler's Patent Railway Chain Horse Powers

and OVERSHOT THRESHERS and SEPARATORS, will receive their prompt attention.

☞ The large and increasing demand for these Machines has induced the Proprietors to erect a New and Spacious Manufactory, and otherwise extend their means of promptly filling orders. Their Powers and Threshers have been sold in nearly every State in the Union, during the past year, and their superiority has been acknowledged by numerous testimonials, not only from Agricultural Societies but from persons who have used them. They have been awarded the First Premiums at all the principal Fairs where they have been exhibited in operation, including the Pennsylvania State Fair, the Provincial Fair of Upper Canada, and the Michigan and Ohio State Fairs, together with numerous County Exhibitions in the different States.

THE TWO HORSE MACHINE, with from three to five hands, will thresh from 125 to 200 bushels of Wheat per day, or twice that quantity of Oats.

The One Horse Machine will thresh rather more than half that quantity.

PRICE AT ALBANY:

For Two Horse Machines,..... $145 00
For one Horse do, ... $120 00

Machines will be shipped to any part of the United States or the Canadas.

The subscribers are now shipping Powers and Threshers to their agents on the Mississippi and Ohio rivers, and in the interior of the States, bordering on those rivers, and to all the principal ports on the Lakes, as well as to their numerous agents in the interior of the Lake States. They will be delivered at all our agencies with only the cost of transportation added to our home prices. Persons wanting to purchase, may by writing to us, learn where they can obtain our machines most conveniently.

N. B.—*Our* Machines *are warranted* as heretofore *to work to the satisfaction of the purchaser*, or they may be returned within 60 days after they are received, and the purchase money (if paid) will be refunded.

We want a few more agents in most of the States. To competent men who can give satisfactory references, liberal commissions will be allowed. WHEELER, MELICK & CO.

Corner of Hamilton and Liberty-streets, Albany, N. Y.

April 1, 1851. (near the Steamboat Landing.)

CAUTION.

THE subscribers, patentees of WHEELER'S PATENT HORSE POWERS, having noticed that an Agricultural Firm is advertising that Wheeler's Patent Horse Powers and Overshot Threshers are manufactured and sold by them, when in fact they have not obtained from us any liberty to use our patent, we hereby caution all persons that said Firm has no right to use our Patent, or to manufacture or sell said Horse Powers, and that a sale by them will confer no right upon the purchaser to use such Power.

Messrs. WHEELER, MELICK & Co., of Albany, and their agents, are the only persons authorised to make or sell Wheeler's Patent Horse Powers; and every such Power made or sold by them, or by any person having a License to do so, has upon one of the Cast Iron Semi-Circles, at each end of the Power, the words

"Wheeler's Patent—Wheeler, Melick & Co., Makers, Albany, N. Y."

A due attention to this fact will enable Purchasers to avoid imposition and fraud.

No person or firm in Albany, except WHEELER, MELICK & Co., is authorised to make or sell said Horse Powers.

April 1. A. & W C WHEELER, Patentees.

Just Published,

A PRACTICAL Treatise on the Construction, Heating and Ventilation of Hot Houses, including Conservatories, Green Houses, Graperies, and other kinds of horticultural structures, with practical directions for their management, in regard to light, heat, and air, with numerous engravings, by Robert B. Leuchars. Price $1. For sale by J. M. THORBURN & CO., 15 John street, New-York Feb. 2.

AGRICULTURAL WAREHOUSE,

193 *Front Street, New-York.*

THE Subscriber would call the attention of those purchasing, to his extensive assortment of *AGRICULTURAL IMPLEMENTS.*

"*Highest Premium*" *Plows*, which were awarded the highest premiums in 1846, 1847, 1848, 1849, and 1850.

Also, *Eagle Center-Draught*, and all Plows in general use.

Corn Shellers, with single and double hoppers.

Straw Cutters—Hoveys's, Green's, Sinclair's and others.

Horse Powers—Badger's Improved, and Bogardus' Patents

Fan Mills—Grant's Premium, and Clow's Rotary Screw.

Threshing Machines—Corn and Cob Mills, Grist Mills, Cultivators, Harrows, Grain Cradles, Rakes, Scythes, Forks, &c., &c.

March 1—3t. JOHN MOORE.

POUDRETTE.

THE Lodi Manufacturing Company offer their Poudrette for sale at their usual prices, viz: $1.50 per barrel, for any quantity over six barrels, delivered free of cartage on board of vessel, in the city of New-York. The article offered this year for sale, will have the advantage of being freshly manufactured.

☞ The company's office is 74 Cortland Street, New-York city, a few doors from the ferry. Address "THE LODI MANUFACTURING COMPANY, NEW-YORK," *post-paid*. April 1, 1851—3t.

The Morgan Horse, Young Gifford.

THIS fine Horse, of the genuine Morgan breed, will stand the coming season, at the stable of the subscriber, in Farmington, Ct., for the use of Mares. Young Gifford was bred in Walpole, N. H., and was got by Old Gifford Morgan, his dam a pure Morgan. He will be four years old in May next, and is one of the best specimens of this distinguished breed. The Morgans are so well known and admired throughout New-England, that it is unnecessary to repeat their merits.

TERMS—$5 dollars for a single service. $8 the season. $10 insurance. WM. L. COWLES.

Farmington, April, 1851—2t.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

JOHN MAYHER & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultural Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels

Poudrette—At the manufacturers' lowest prices.

JOHN MAYHER & Co.

March 1—tf. 197 Water Street, New-York.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

DOMESTIC ANIMALS AT AUCTION.

THE postponed yearly sale of FULL BRED SHORT-HORNS AND IMPROVED DAIRY STOCK, consisting of about fifty head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. I shall dispose of all the improved Dairy Stock, which is composed of the finest Short-horn, with a slight cross of Amsterdam Dutch, which some writers say was part of the original ingredient which composed the improved Short-horns.

I am now breeding the Short-horns, Devons and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The cow which won the FIRST PRIZE as a milker, at the American Institute last year, was bred by me, and composed of the above alluded to Dairy Stock. Several of the Bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All Cows and Heifers old enough, will be warranted in calf at the day of sale, by my Imported Bull "Lord Eryholme," or my celebrated Bull "Lamartine."

I own two thorough bred Devon Bulls; one the celebrated old Major, the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold—which, I have not as yet determined.

A full Catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk Sows, in pig to my imported Boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 South Down Ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported Buck "Babraham." Some of their Buck Lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain Stock from my previous Herd, but will also enable persons to procure calves from my imported Bull, lambs from my imported Ram, and pigs from my imported Boar—all of which animals were recently selected by me in person, when in England.

The mode of warranting the Cows and Heifers in calf, is this: in case they prove not to be so, it shall be optional with the purchaser, on his *certificate of that fact*, either to receive from me $25, (say twenty-five dollars,) or to send the cow to my farm, and I will keep her the proper time (free of expense) to have her got in calf to either of my Bulls, which he shall choose. I will give $25 for any heifer calf from either of the Cows or Heifers sold at the sale, delivered on my farm, at two weeks old.

Stock purchased to be sent a distance, will be delivered on shipboard or railroad in the city of New-York, free of risk or expense to the purchaser.

Persons living at the south, in a climate to which it would not be well that stock should be transported, at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post, please pre-pay, and I will pre-pay their answers, and also a Catalogue if required. Catalogues will be to be had at all the principal Agricultural Warehouses and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time will find my superintendant, Mr. Wilkinson, to give them the desired information when I am not at home.

Dated this 4th day of March, 1851, at Mount Fordham, Westchester County, eight miles from the City of New-York, by Harlem Railroad. April 1.—3t L. G. MORRIS.

MORSE'S GREY.

THIS celebrated Horse was awarded the first premium of $20, at the great New-York State Fair in Sept., 1850, where he was exhibited with a large number of his colts, and was judged the best stock-horse for "all work" in this country. Said horse has trotted his mile in two minutes and forty-six seconds. One of his colts took the first premium at the State Fair at Saratoga Springs; he was owned by Mr. Milliman, of Washington county, N. Y.—and in all places where this stock has been exhibited, they have carried off the best premiums. He is a beautiful dapple grey, 15¾ hands high, strongly and finely proportioned.

This Horse is a descendant of the "Dilligence horses" in Italy, and brought from there by Napoleon Bonaparte, into France. His sire was brought to Quebec, and was then sold to a gentleman by the name of McNit, of Washington county, N. Y. His dam was of the Messenger breed.

Said Horse was raised by Mr. J. Mills of Argyle, Washington county, N. Y. We challenge any horse in this State to show as fine stock as said Horse. His colts are justly celebrated for speed, bottom, and good temper, are eagerly sought after in the market, and command prices varying from $150, to $500, and $1000.

Terms $10 the season. Insurance to be agreed upon. Said Horse will stand at the stable of James Rice, three miles north of the village of Lansingburgh. All communications addressed to I. T. Grant, P. M., Junction, Rensselaer county, N. Y., will receive prompt attention. CALVIN MORSE,

April 1, 1851—3t. I. T. GRANT.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

SEEDS.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a year. A. B. ALLEN & CO.,

Merch 1—tf. 189 and 191 Water street, New York.

GREAT SALE OF SUPERIOR THOROUGH

Bred Short-horn Cattle.

THE subscriber, having more stock than can be sustained on his farm, will offer at public auction about 30 head of his Improved Short-horn Cattle, consisting of Bulls, Cows, Heifers, and Heifer and Bull Calves, on Thursday, the 26th day of June next, at his farm, 2½ miles from this city.

It is known to breeders of improved stock in this country, and in Canada, that the proprietor of this herd, during the past twelve years, has, through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a Herd of Cattle, from which superior animals could safely be drawn, for improvement and cross upon other herds.

His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, which herd it is well known, has recently been disposed of at public sale by his administrators, and dispersed in many hands, and can no longer be resorted to as a whole for improvement. The announcement of that sale created great interest, and all Short-horn breeders in England seemed emulous to secure one or more of the animals to mingle with the blood of their herds; and at the day of sale there was found assembled, the largest audience ever before witnessed on a similar occasion, numbering, it is said, from 4 to 5,000 persons; among them were the most eminent breeders in England, and several from other countries. Some of the animals bringing prices which seemed incredible to many.

In the herd now offered for sale, will be included the imported Bull Duke of Wellington, and the premium Bull Meteor. These are Bates Bulls, and their reputation as stock getters, is too well known to need any comments. I am, however, authorised to say by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means for forming a judgment, "that in no instance, to his knowledge, have these two bulls been bred to Short-horn cows of other herds previously imported into the United States, but what the produce were superior in general qualities to such herds." The most of the stock which is now offered for sale, has been bred from these two bulls; and the proprietor having a young bull more remotely connected with the portion of the herd which he retains, (say about 14 in number,) he can now spare these two valuable Bulls. There will be in the stock offered for sale, six young Bulls, from 8 months to about 2 years old, in addition to the two above named; and the remainder of the stock will be composed of Cows, (most of them possessing extraordinary milking qualities,) Heifers, and Heifer Calves.

It is believed that no Herd of Short-horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals. A Catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the terms of sale will be stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience. GEO. VAIL.

Troy, N. Y., April 1, 1851—3t.

THE ORIGINAL BLACK-HAWK.

AT the earnest solicitation of many friends of this justly celebrated Morgan STALLION, the owner has been induced to let him remain in Vermont for one season more.

The superiority of this horse as a Stock-getter is becoming more and more highly appreciated, as his progeny are disseminated over the country.

For particulars in regard to pedigree and performances see large bills and previous volumes of the Cultivator.

Black Hawk will be kept for this season at the stable of the subscribers.

Terms $25 the season, payable in cash or satisfactory notes on demand, with interest.

Mares will be pastured at a reasonable price—accidents and escapes at the risk of the owners.

D. & D. E. HILL, Agents.

Bridport, Vt., March 1—4t.

Contents of this Number.

Report of Mass. Commissioners on Agricultural School,..... 161
Sketch of Putnam County, N. Y., by H. C. W.,..... 163
Causes of Agricultural Improvement,..... 165
The Wheat Crop of New-York,..... 166
The Architecture of Country Houses,..... 167
Cutting and Laying Tile Drain, by Prof. J. P. NORTON,..... 169
Requisites for Butter Dairies,..... 171
Skim-Milk and Butter from 16 Cows, by S. L. WATTLES—Large yield of Butter—Cure of Wens in Cattle,..... 173
Cure for Scratches in Horses—Cure for Foot Rot in Sheep—Lime for the Curculio—Protecting half-hardy Plants—Utility of the Cultivation of Flowers,..... 173
Trellis for Grapes—Protection of Grape-vines from Rose Bugs, by A. M. HOLT,..... 174
The Curculio—Notices of New Publications,..... 175
Breeding and Management of the Rabbit, by F.,..... 176
Plan of a Dairy Barn, by G. EVANS,..... 178
Best Grass for low Lands—Indian Corn for Fodder,..... 180
Cultivation of Potatoes, by J. H. ALEXANDER—Improved Stock in Nova Scotia, by JAMES IRONS,..... 181
Indian Corn—Injury by Muskrats—Vitality of some varieties of Seeds,..... 182
Notes for the Month—To Correspondents,..... 183
Answers to Inquiries,..... 185
Hussey's Reaping Machine, by OBED HUSSEY,..... 186

ILLUSTRATIONS.

Fancy Lop-Eared Rabbits,..... 176
Cross Section and Floors of Barn,..... 178, 179

Reaping, Mowing and Hemp Cutting.

HUSSEY'S REAPING AND MOWING MACHINE.

IT is now eighteen years since the subscriber first introduced his Reaping Machine into the State of New-York. It then cut two and a half acres in one hour and twenty minutes, and in the language of an old and experienced farmer of that day, "*It cheated the hogs.*" As the farmers of Western New-York appear to be yet unacquainted with the real merits of the Machine, for want of procuring those of Baltimore make, the following letters are respectfully offered for their perusal.

Utica, Lasalle Co., Illinois, Dec. 14, 1850.

Mr. OBED HUSSEY, Baltimore, Md.—Dear Sir: I received your Reaping and Mowing Machine in time for harvest. I used it for harvesting and for mowing. I am fully satisfied that your Machines are the best yet offered to the farmers of this state. I have mowed about four hundred acres, a great portion of which was wild prairie, very frequently running against both stones and ant heaps, with sufficient force to throw both driver and raker off the Machine, without injury to the Machine. Why your Machine is preferable to all others, is, after you have cut your different kinds of grain, fully as well as can be done by any other Machine, with not over fifteen minutes work, you can take the same machine into your meadow, or on to the prairie, and cut your grass at the rate of ten acres per day, cutting it closer and cleaner, than can be done with the scythe. With proper care, your machine will last fifteen or twenty years with trifling repairs. Very respectfully yours. JAMES CLARKE.

P. S. There is an imperfect Machine, [your patent,] made on Fox River, which has failed in every instance that I have heard from. Your attention to this will confer a favor on the farmers of Illinois, as those imperfect Machines are extensively scattered over the state.

Island Grove, Sangamon Co., Ill., Dec. 25, 1850.

Mr. OBED HUSSEY, Baltimore, Md.—Dear Sir: Last summer I received two of Hussey's Reaping and Mowing Machines, one from your own shop in Baltimore, and the other manufactured in this state. Unfortunately for me, I retained the one manufactured in this state, and with difficulty succeeded in cutting about two hundred acres of wheat and grass. The one from your shop I let Mr. John Simms have, who cut his wheat, oats and hay, about seventy-five acres, with perfect satisfaction and ease, most of it with two horses, and without being obliged to grind the knives. After Mr. Simms finished his harvest, he let Mr. J. D. Smith, of Island Grove, have it, who cut about three hundred acres of grass with it, the machine giving perfect satisfaction. Very respectfully yours. EDWARD J. ENO.

Springfield, Ill, Dec. 25, 1850.

Mr. OBED HUSSEY, Baltimore, Md.—Dear Sir: I have used one of your Mowing and Reaping Machines, and consider it the best Machine I ever saw, and never intend to do without one, if it is possible to get one, even if I have to go to Baltimore and remain at the shop till one can be made. I do candidly believe that if I had had one ten years ago, I would now feel like a much younger man—and cheerfully recommend them to all who have grass or grain to cut, as a Machine that will do their work in perfect order, neatness, and with ease to all employed, JOHN SEMMS,

4 miles west of Springfield, Ill.

Carrolton, Green county, Ill., Dec. 27, 1850.

I procured one of Mr. Hussey's Reaping and Mowing Machines from Baltimore last spring. I cut eighty acres of wheat, and ten acres of oats, and fifty acres of timothy with it, to my entire satisfaction. After which I cut sixty acres of Clover seed with it in less than five days. I could not have saved the clover seed without the machine, so I consider I saved the whole cost of the machine in the saving of clover seed alone. SAMUEL THOMAS.

Springfield, Ill., Dec. 25, 1850.

Mr. OBED HUSSEY, Baltimore, Md. -Dear Sir: During the harvest of August, 1849, with one of your Machines, I cut sixty acres of hemp, using a set of four and a half feet knives and guard, and two teams, of four horses each, changing every two rounds, which cut on an average eight acres per day. This last harvest, the same single machine, with six foot guard and knives, operated by the same force, cut successively two hundred and fifty acres of Hemp, or from ten to twelve acres per day. From this experience, I take pleasure in recommending your cutters above the Hemp cradle and hook, not only as a labor saving, by the expedition with which they cut, but as Hemp saving, from the perfect thoroughness, evenness, and nearness to the ground, with which they do their work, and the regular, and collected form in which they leave the Hemp after being cut.

Yours respectfully, EDWARD S. COX.

Naperville, August 27, 1849.

A few days since, Mr. Hussey came to this place with his Reaper, manufactured at Baltimore, to exhibit to the farmers of Du Page county. His first trial here, was in a piece of Hedgerow Wheat, on new land, and very heavy, but standing up well, and in good order for cutting. It did the work well, and very fast, as grass and weeds were no impediment. We next went into a piece of Black Sea Wheat of fourteen acres, a part of which was nearly flat on the ground, and lying in all directions. I had no idea, that it could be cut by any machine, but to my astonishment, it worked as free and easy as if the grain were standing up; we frequently went round the piece on a trot. We were visited in the course of the day by from fifty to seventy persons, who were all well pleased, and thought we were doing better work than they had ever before seen done by any other machine. Although I had two other machines in my field, could I have kept the Hussey Reaper through my harvest, and abandoned all others, I should have finished several days sooner, and did my work much more to my satisfaction. MORRIS SLEIGHT.

It should be understood, and the subscriber will here state the fact, that the persons whose names are subscribed to the foregoing, are well acquainted with the different reapers used in the western states.

He will state another fact, to wit: The reaper so often spoken of in the west, first appeared in Virginia, in competition with his own. It has now nearly disappeared, and Hussey's Reaping Machine is now rapidly taking their places. All orders must be directed to the subscriber in Baltimore. OBED HUSSEY.

Lawrence Scientific School,

Harvard University, Cambridge, Massachusetts.

SPECIAL STUDENTS attend daily, from 9 o'clock, A. M., till 5 o'clock, P. M., in the Laboratories, and under the direction of the following Professors:

LOUIS AGASSIZ, LLD., Professor of Geology and Zoology.

JEFFREYS WYMAN, M. D., Professor of Comparative Anatomy and Physiology.

HENRY L. EUSTIS, A. M., Professor of Engineering.

EBEN NORTON HORSFORD, A. M., Professor of Chemistry.

Instruction is also given by Professor PIERCE in Mathematics, Prof. LOVERING in Physics, and the Messrs. BOND at the Astronomical Observatory.

All lectures delivered to the undergraduates of the College, are free to members of the Scientific School. For further information apply to E. N. HORSFORD, Dean of the Faculty.

May 1, 1851—3t.

Bone Manure.

A VERY superior quality of BONE DUST, finely ground, and warranted pure, is now prepared at the EAGLE MANUFACTURING Co., for *Farmers and Gardeners.* It is perfectly dry, packed in tight barrels, and will keep sound in any climate. Apply to

May 1—1t* ALFRED T. KEMP, 62 Beaver-st., New-York.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, New York.

Fresh Garden Seeds, a large assortment of the various kinds Also, Field Seeds.

Lawn and other grasses.

Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c

Guano, Bone Dust, Poudrette, and other fertilizers

Prompt attention given to all orders by letter or otherwise.

March 1—tf.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,

March 1—tf. 189 & 191 Water street, New York.

THE CULTIVATOR

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